

INFINITY APARTMENTS

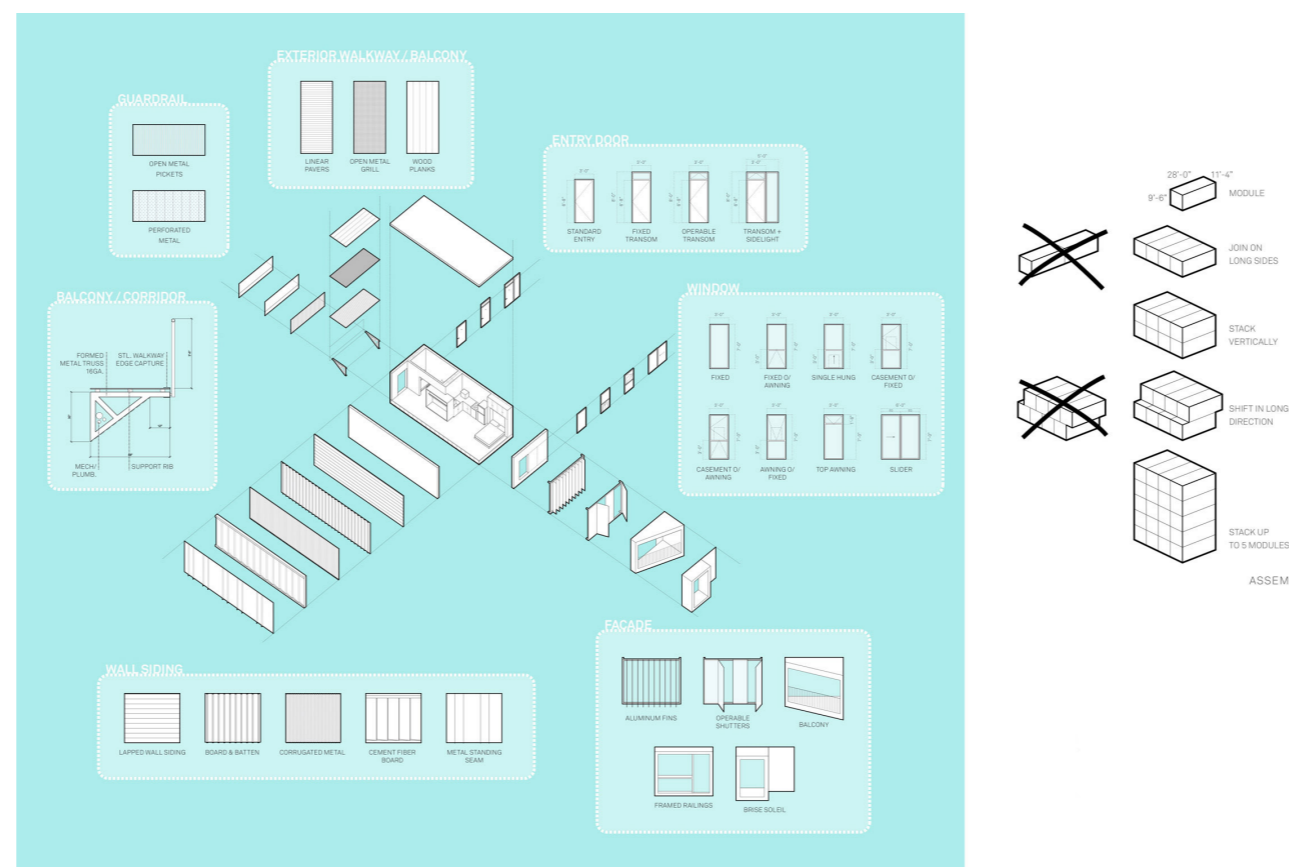


THE PROJECT AIMS TO ACHIEVE TWO MAIN OBJECTIVES SET OUT BY THE BRIEF. THE FIRST BEING THE ABILITY FOR THIS DESIGN TO BE EFFECTIVE AS A SITELESS DESIGN, BY MAKING IT ONE OF THE MOST ADJUSTABLE SOCIAL HOUSING DESIGNS TO DATE. THE SECOND BEING THE IMPORTANCE FOR COMMUNAL INTERACTION IN SOCIAL HOUSING APARTMENTS. THE MODULES ARE CREATED SO THAT ANY FORMATION UPWARDS AND ACROSS IS ACHIEVABLE BETWEEN THE THREE UNITS. THIS MEANS THAT WHATEVER SITE RESTRICTIONS IMPOSE ON THE DESIGN, THERE WILL BE RESPONSE THROUGH THE REORGANISATION OF MODULES.

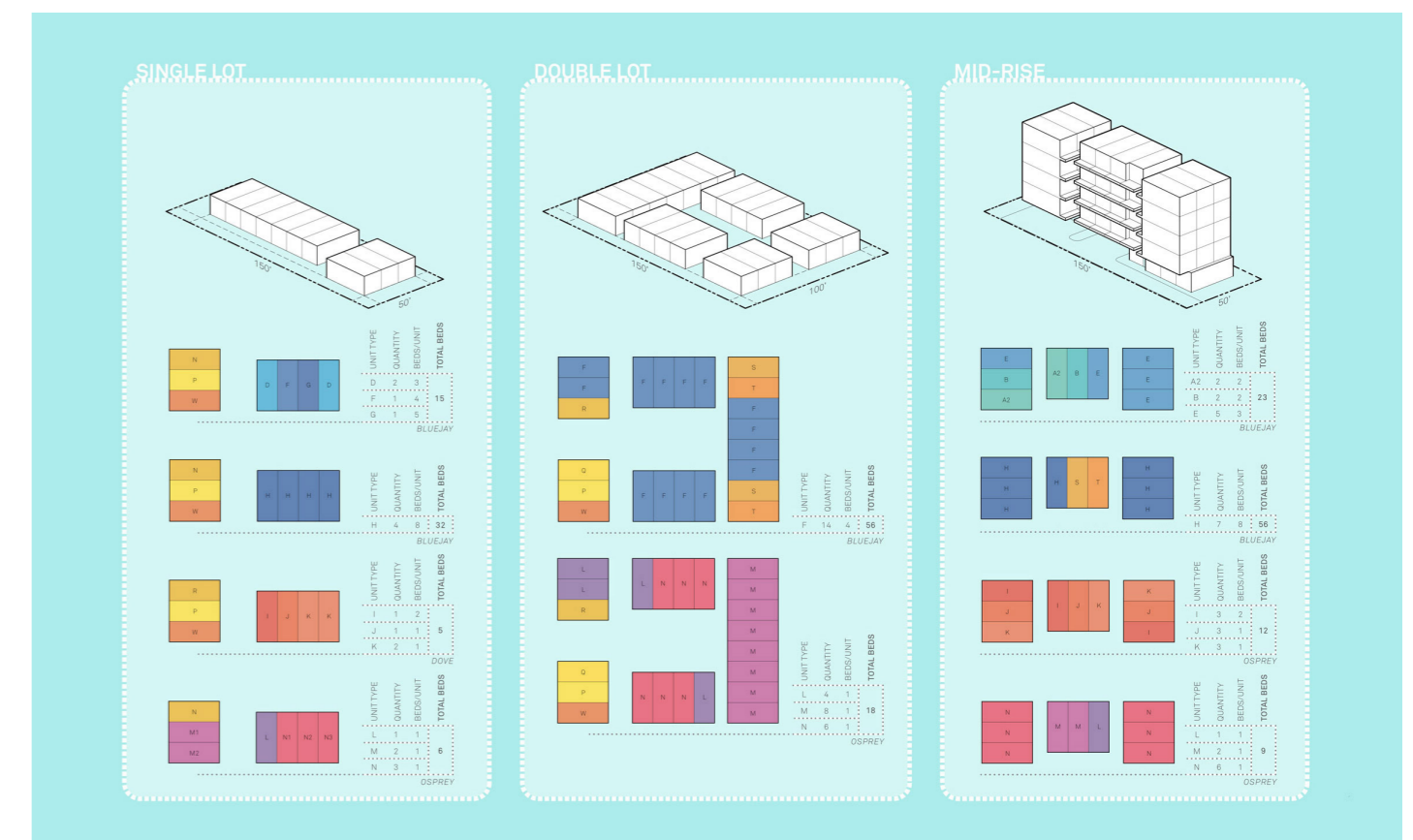
PRECEDENT : NEST TOOLKIT BY BROOKS + SCARPA AND PLANT PREFAB



<https://www.dezeen.com/2019/10/28/nest-toolkit-build-homeless-shelters-supportive-housing/>

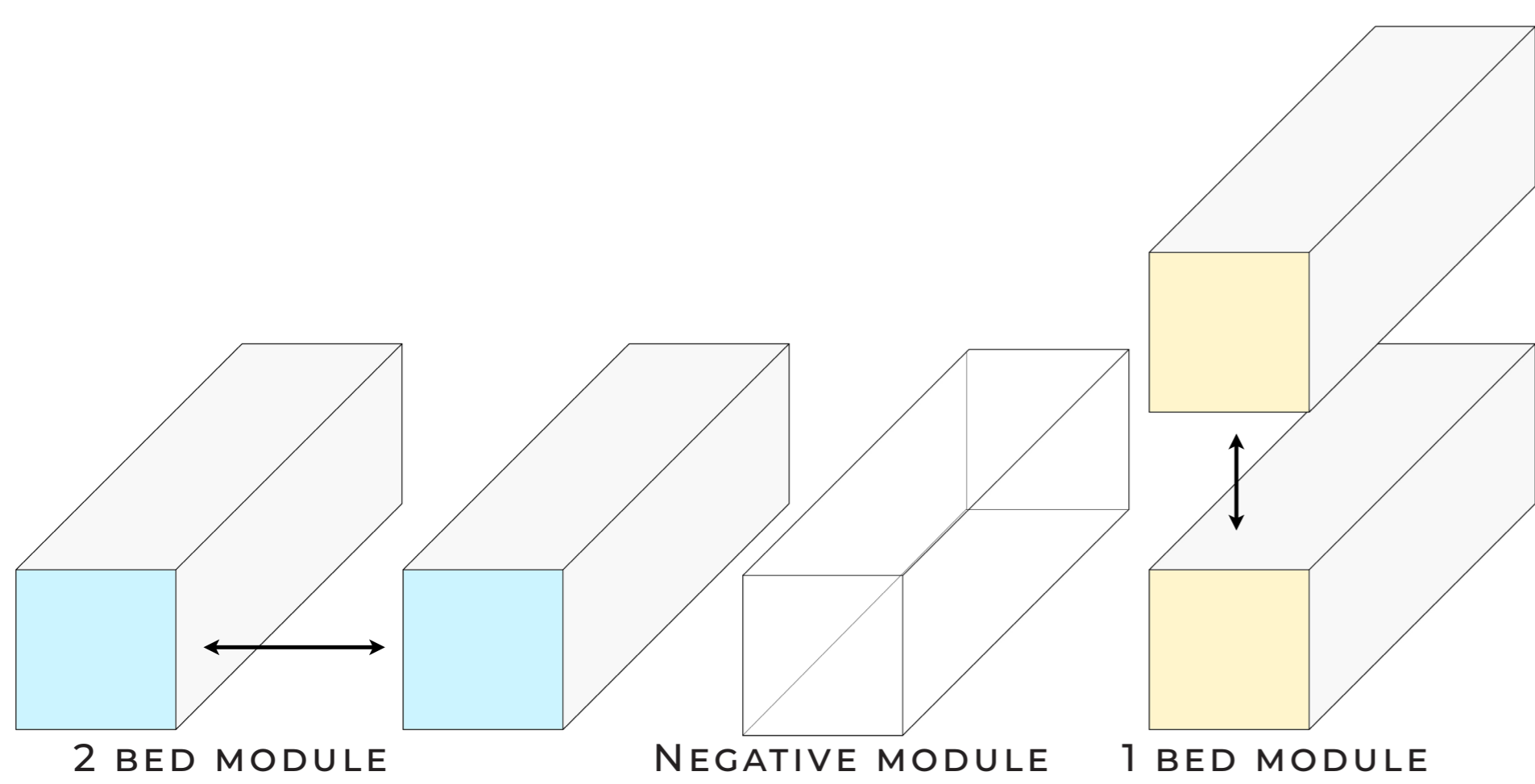


<https://www.dezeen.com/2019/10/28/nest-toolkit-build-homeless-shelters-supportive-housing/>

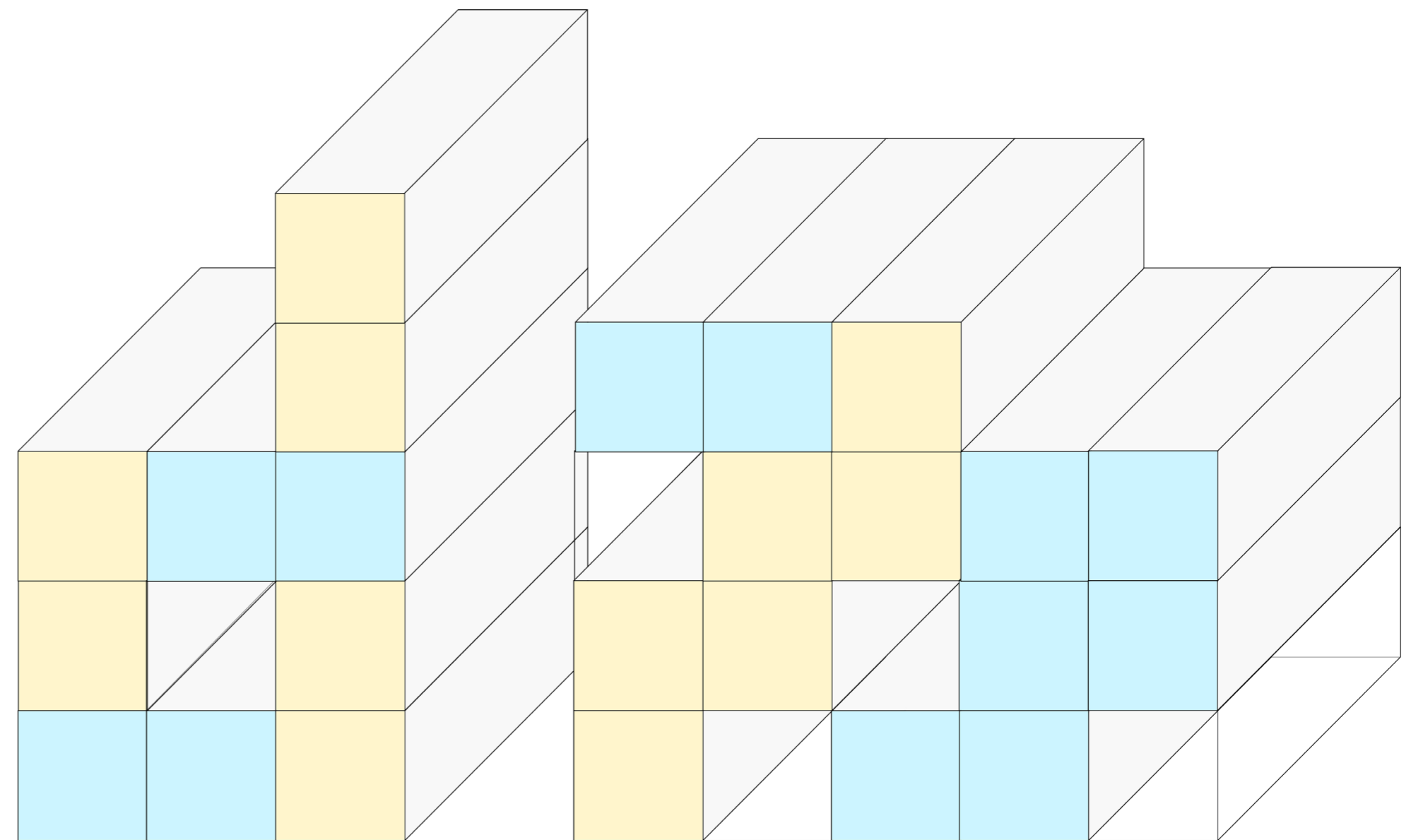


<https://www.dezeen.com/2019/10/28/nest-toolkit-build-homeless-shelters-supportive-housing/>

ADAPTABILITY



INFINITE FORMATIONS



NEGATIVE MODULE



ONE BED MODULES



TWO BED MODULES

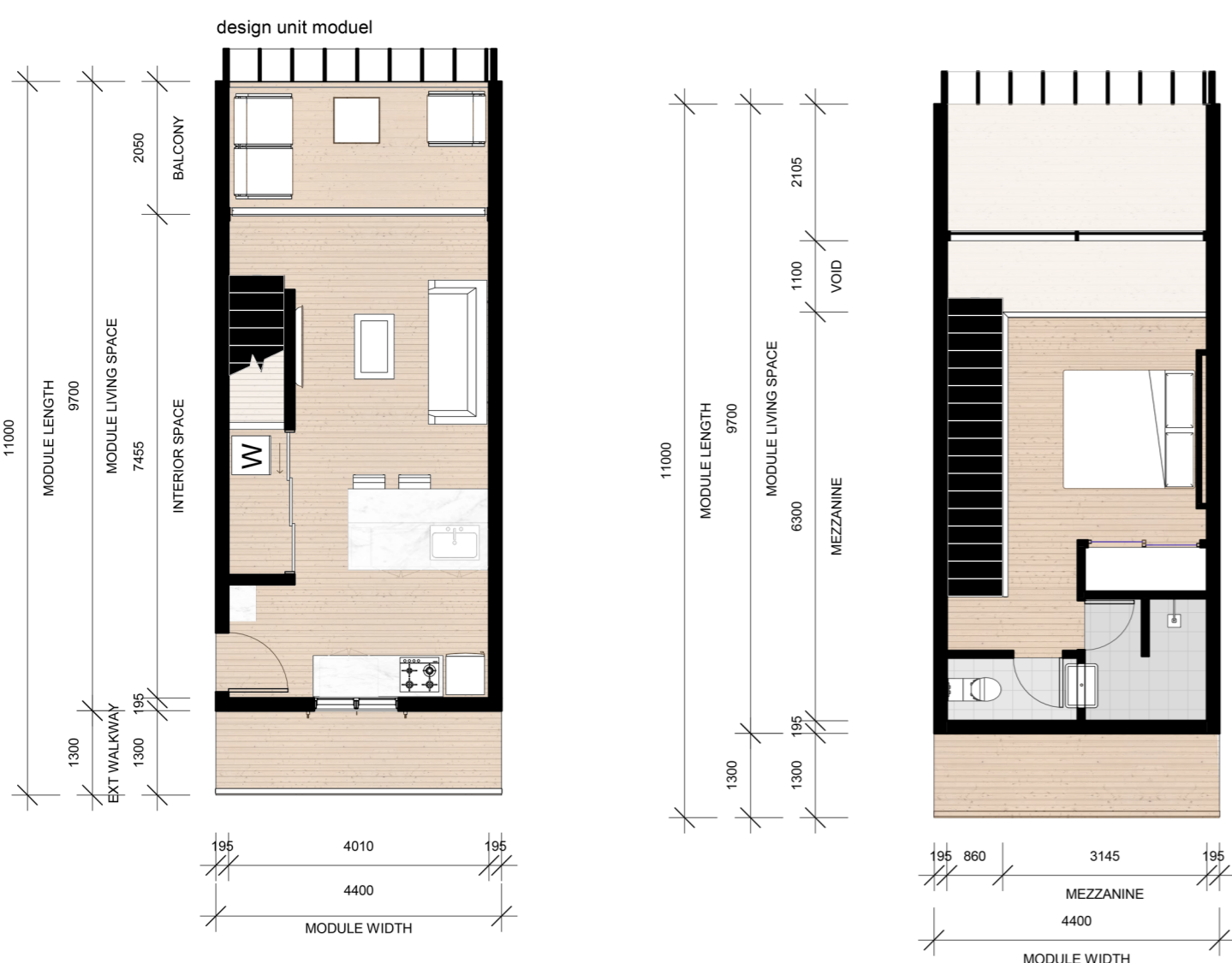


ONE BED APARTMENT ULTIMATE FLEXIBILITY

THE AIM OF THE ONE BED APARTMENT IS TO STILL ALLOW FOR SOCIAL INTERACTIONS WITHIN THE APARTMENT AND NOT BE CONSTRICTED BY TYPICAL SMALL APARTMENT LIVING. BY SPLITTING THE LEVELS OCCUPANTS CAN HAVE VISITORS DOWNSTAIRS, YET STILL HAVE THEIR OWN PRIVACY UPSTAIRS. BY MAXIMISING THE USE OF SPACE FOR EXAMPLE, UNDER AND ABOVE THE STAIRS, A LAUNDRY AND CINEMA LIKE MEZZANINE HAVE BEEN CREATED. THE GLASS FRONTAGE ALLOWS FOR LIGHT TO PENETRATE INTO THE APARTMENT AND BRING THE CLIMATE INSIDE WHEN DESIRED THROUGH LARGE BI-FOLD DOORS DOWNSTAIRS.



ONE BED APARTMENT FLOOR PLAN



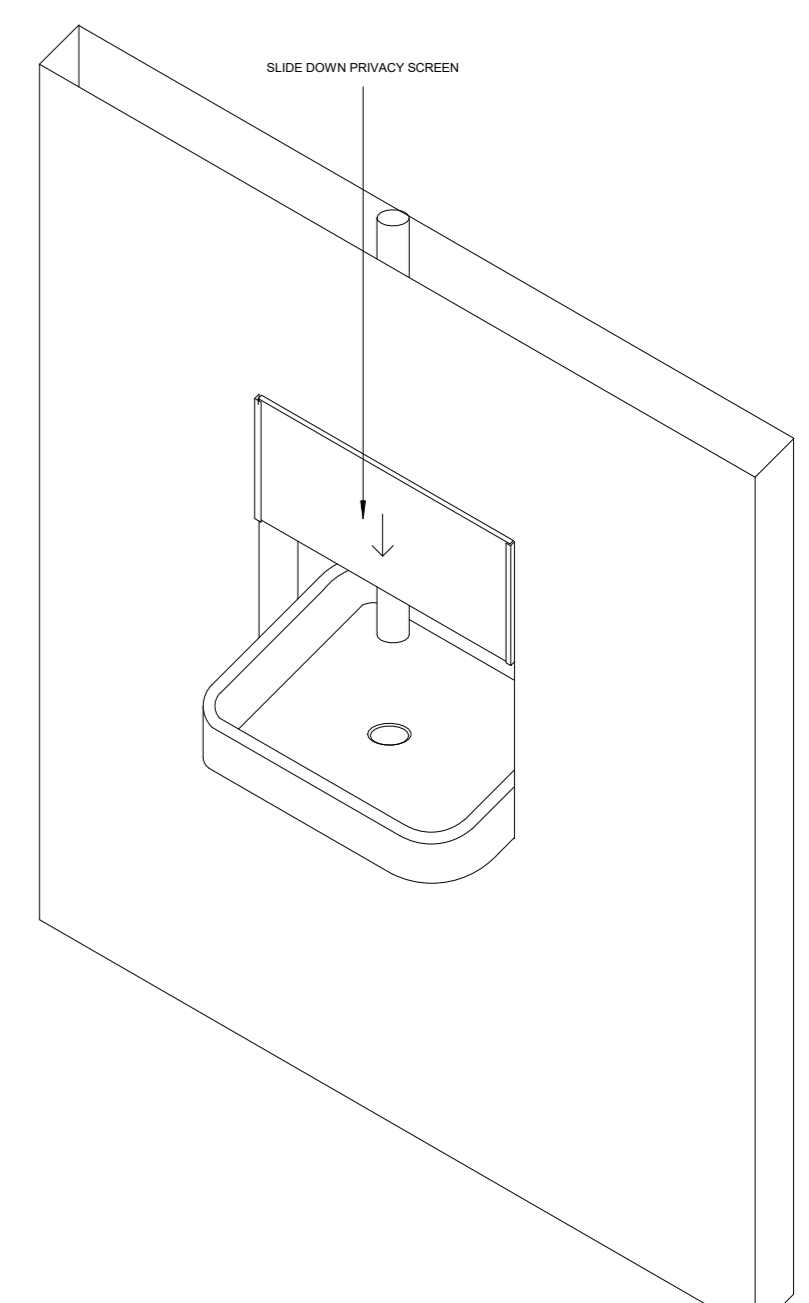
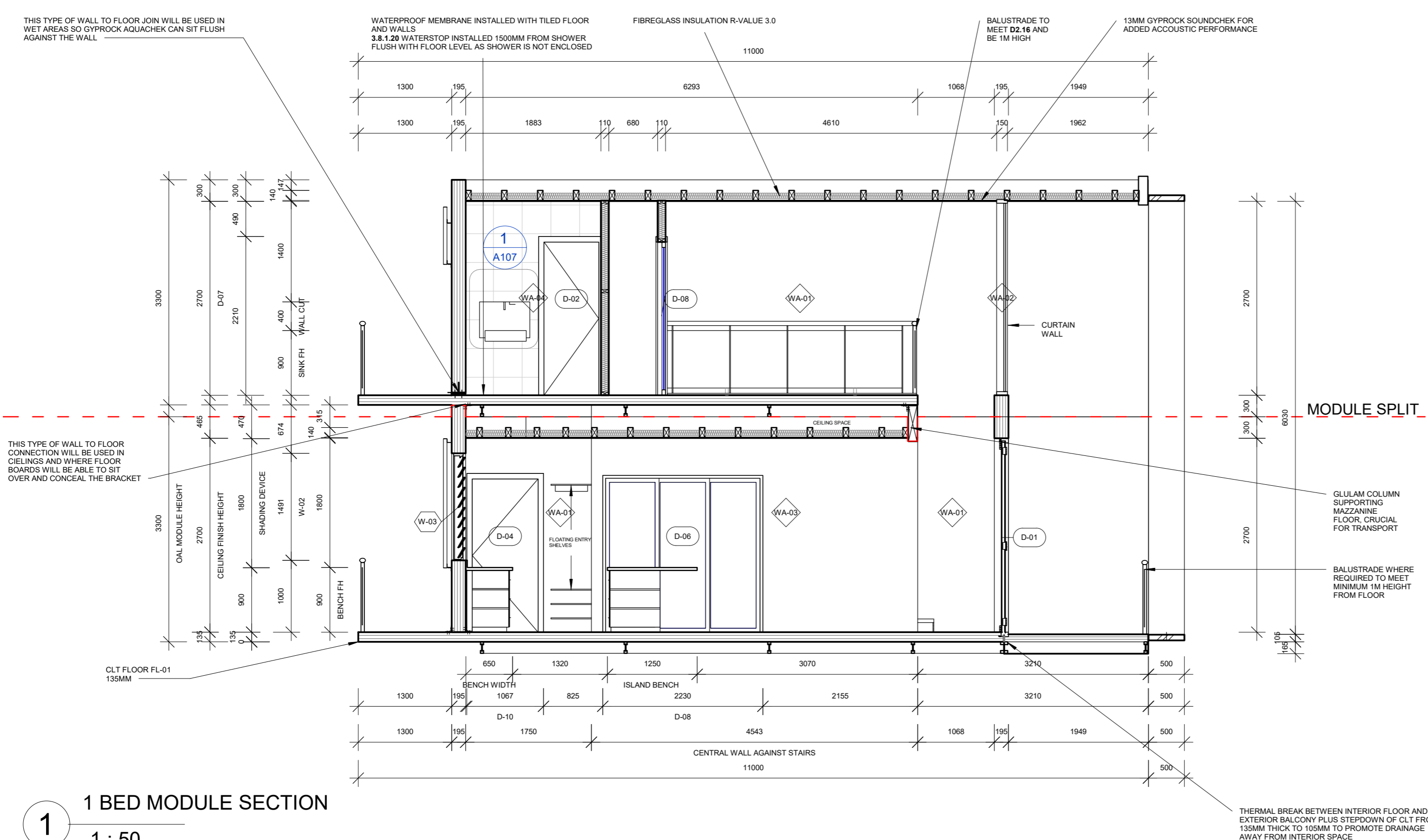
APARTMENT SIZE: 62m²
BALCONY: 8m²
APPROX COST: \$221,636

ONE BED APARTMENT MODULE CONSTRUCTION



FOR THESE EXAMPLES THE OUTSIDE WALL HAS BEEN LEFT OFF TO SHOW THE EVOLUTION OF THE INTERIOR SPACE.

ONE BED APARTMENT BESPOKE SINK



1 1 BED MODULE SECTION
1 : 50

TWO BED APARTMENT COMMUNAL LIVING

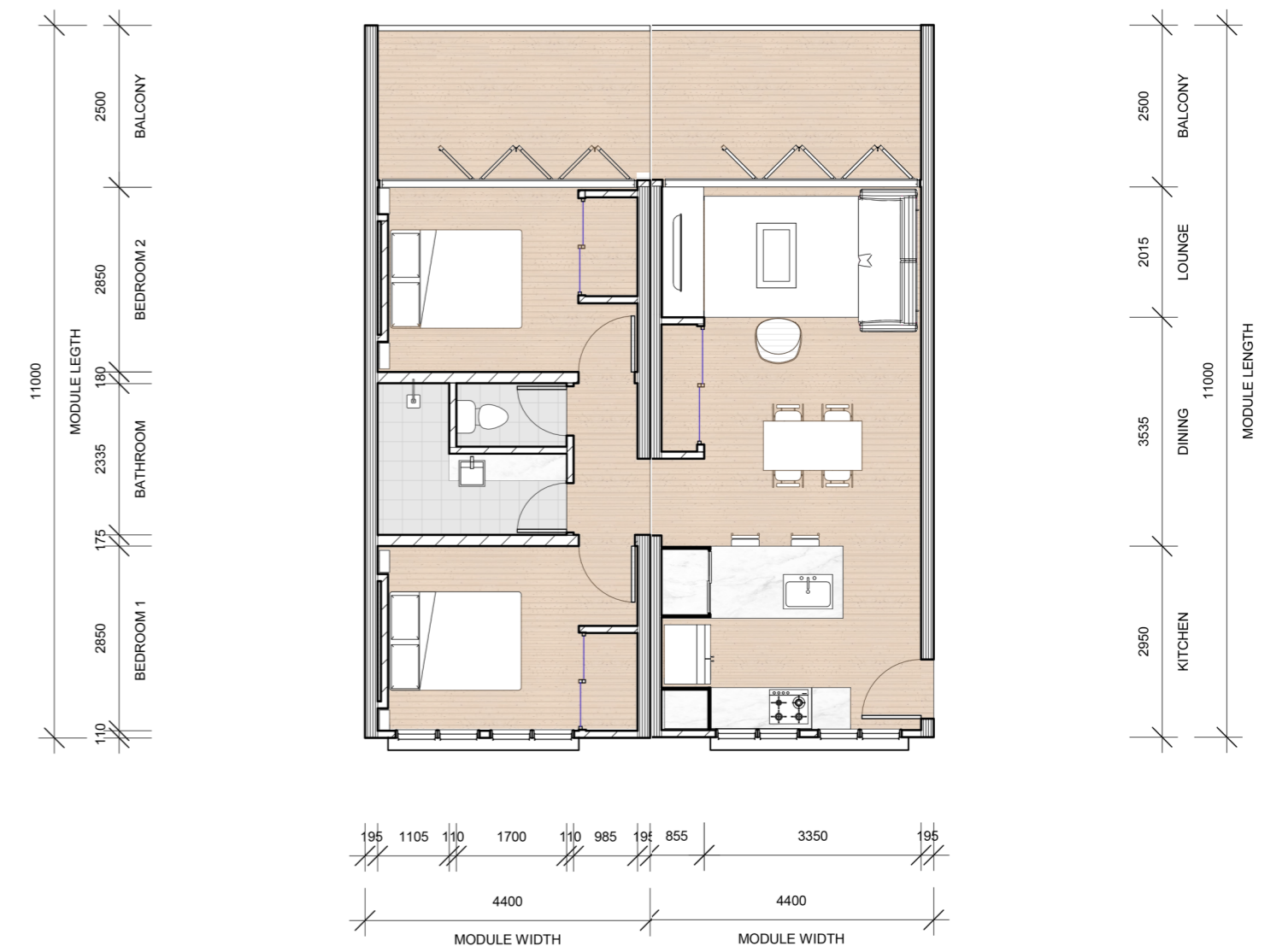
THE AIM FOR THE TWO BED APARTMENT IS SIMILAR TO THE ONE BED WITH A COMMUNAL AREA ON ONE SIDE OF THE APARTMENT AND PRIVATE AREA FOR OCCUPANTS ON THE OTHER. THIS WILL ALLOW FOR A MIX OF PEOPLE LIVING TOGETHER BEING COMFORTABLE IN YOUR OWN RETREAT WHILST OTHER PEOPLE ARE IN YOUR APARTMENT. THE LINEARITY OF THE APARTMENTS IS TO TRY AND BRING THE FOCUS FROM INSIDE THE APARTMENT TO THE OUTSIDE, AS THIS WILL MAKE THE SPACES FEEL LARGER AND ENCOURAGE SOCIAL INTERACTION BETWEEN OCCUPANTS IN THE COMPLEX.



TWO BED APARTMENT MODULE ASSEMBLY

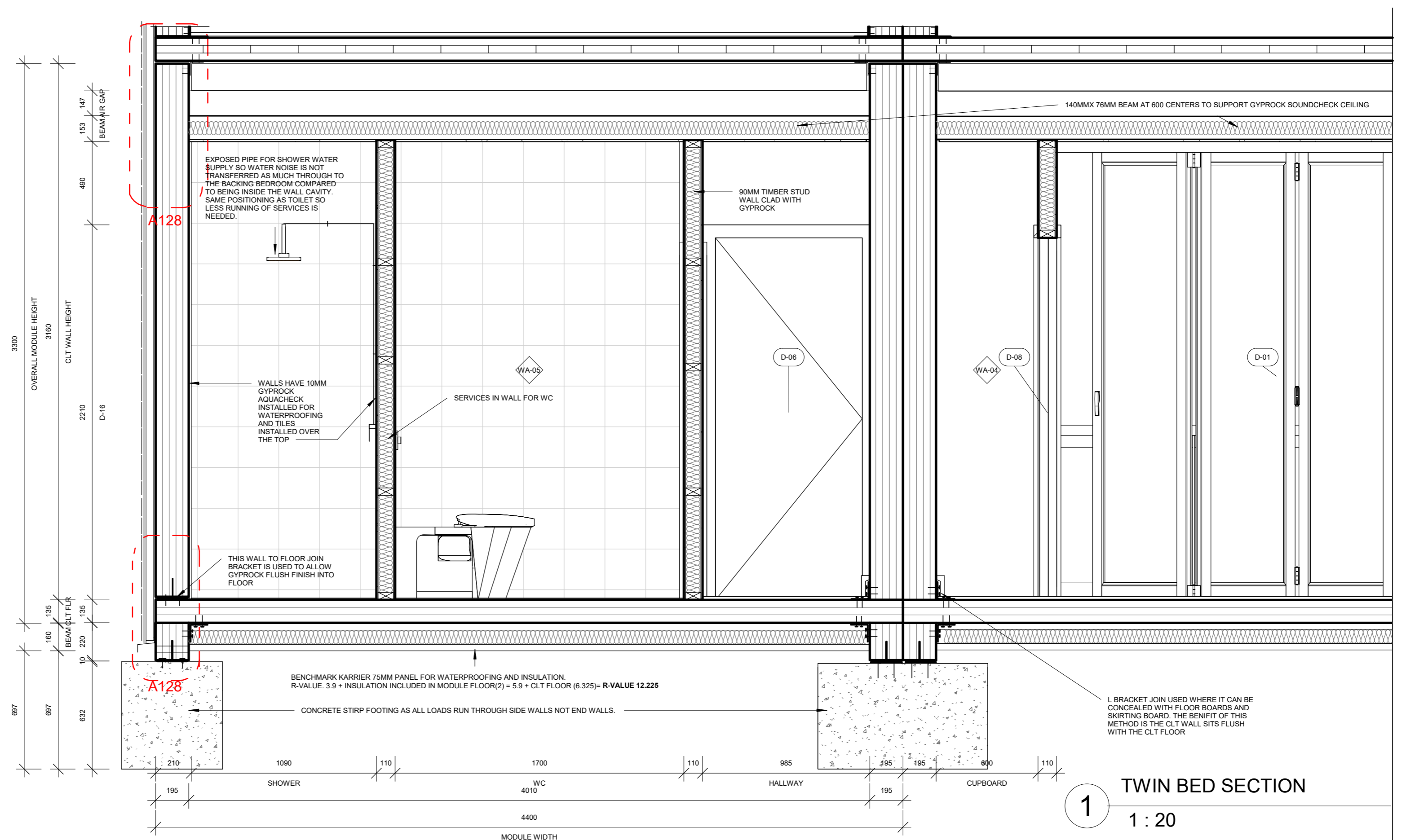
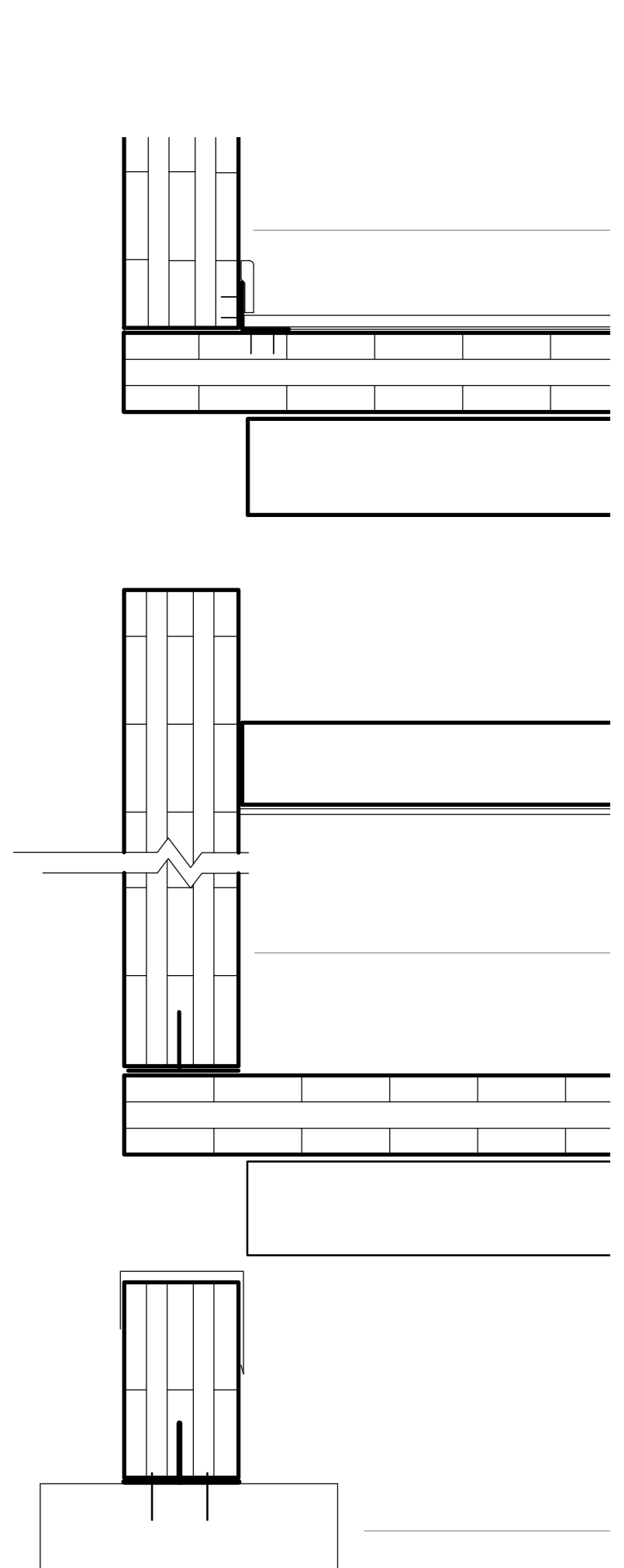


TWO BED APARTMENT PLANS



APARTMENT SIZE: 86.4m²
BALCONY: 20m²
APPROX COST: \$256,003

TWO BED APARTMENT MODULE ASSEMBLY



NEGATIVE MODULE
INFINITE OUTCOMES



NEGATIVE MODULE
CINEMA

THE NEGATIVE MODULE ALLOWS FOR SITE FLEXIBILITY. IT HAS THE ABILITY TO PERFORM AS THE SERVICE CORE AND CENTRAL CIRCULATION AREA, AND THE ABILITY TO PROVIDE A BUILDING WITH INFINITE POSSIBILITIES AS TO WHAT CAN OCCUR. THESE IMAGE SHOW A BREIF EXAMPLE OF SOME OF THE POSSIBLE SOLUTIONS FOR THE NEGATIVE MODULE TO INCREASE COMMUNITY INTERACTION AND LIVABILITY WITHIN TRADITIONAL SOCIAL HOUSING COMPLEXES.

NEGATIVE MODULE POSITION



NEGATIVE MODULE
OUTDOOR EXERCISE



SITE PLAN
1:100



FLOOR PLAN
GROUND FLOOR 1:100



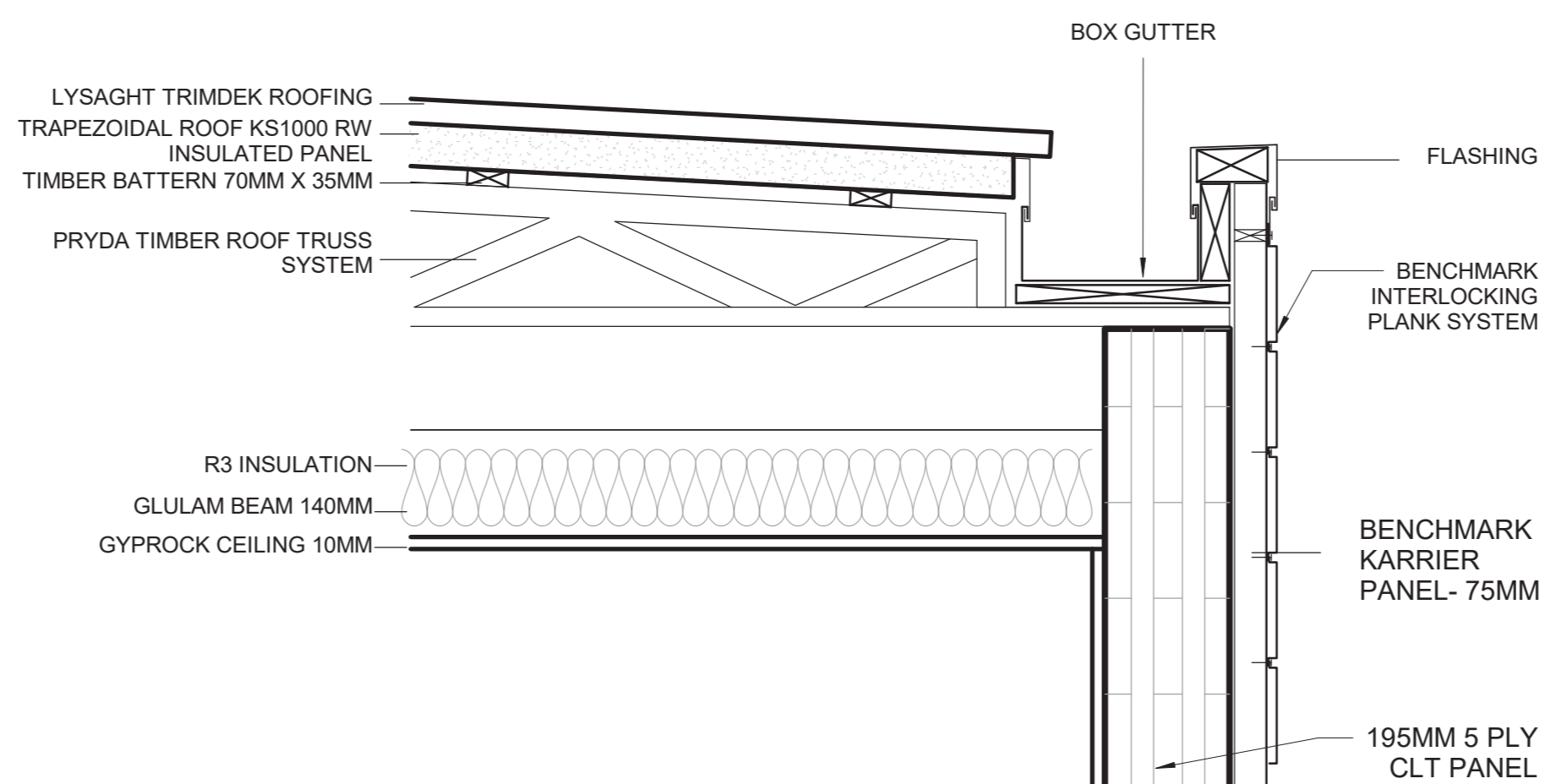
FLOOR PLAN
LEVEL 1 1:100



SITE SECTION
1:100



SECTION CUTOUT
A109 1:10



1 Section 01 - Callout 1
1 : 10

**ELEVATIONS
EAST**



**ELEVATIONS
WEST**



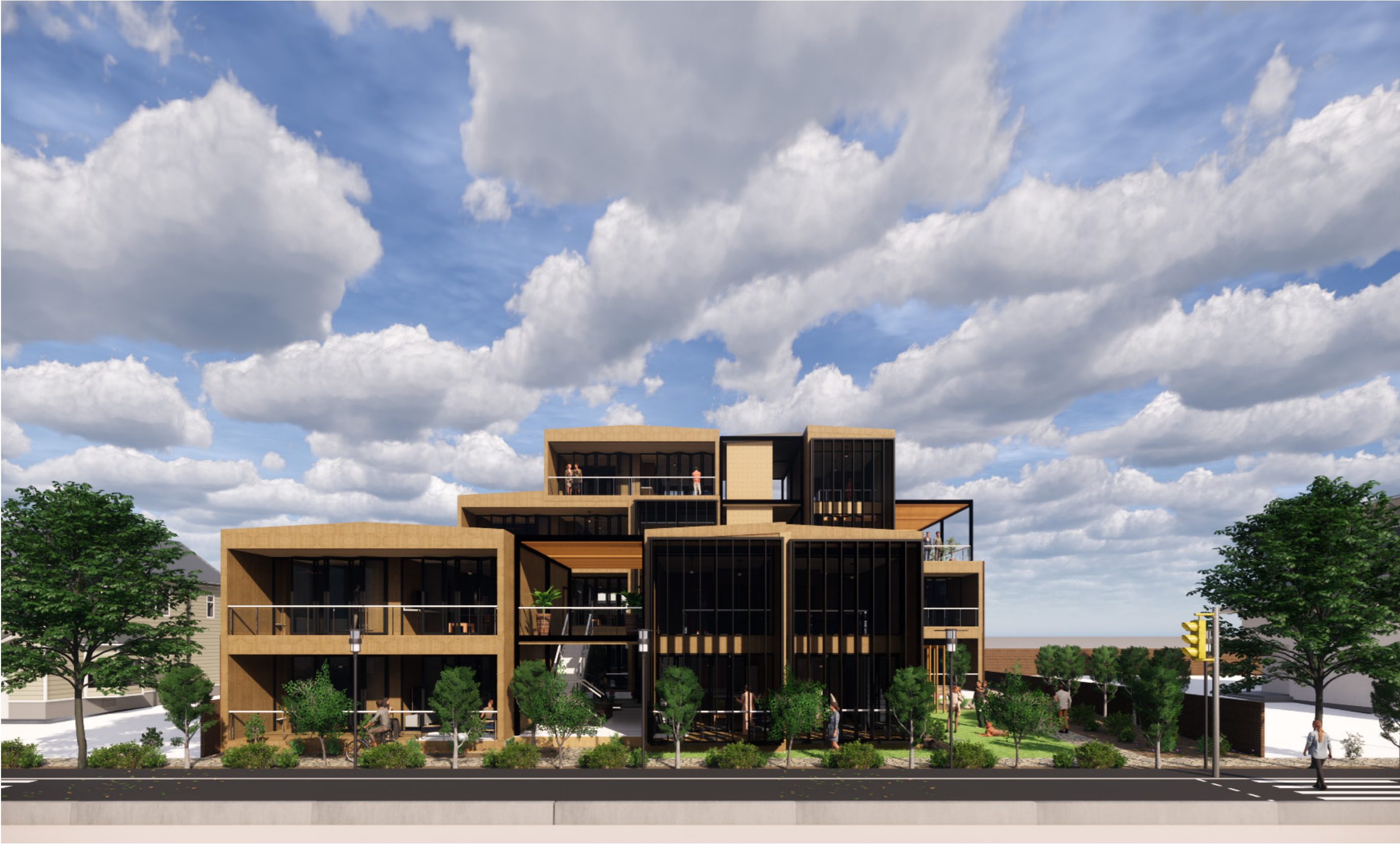
**ELEVATIONS
NORTH**



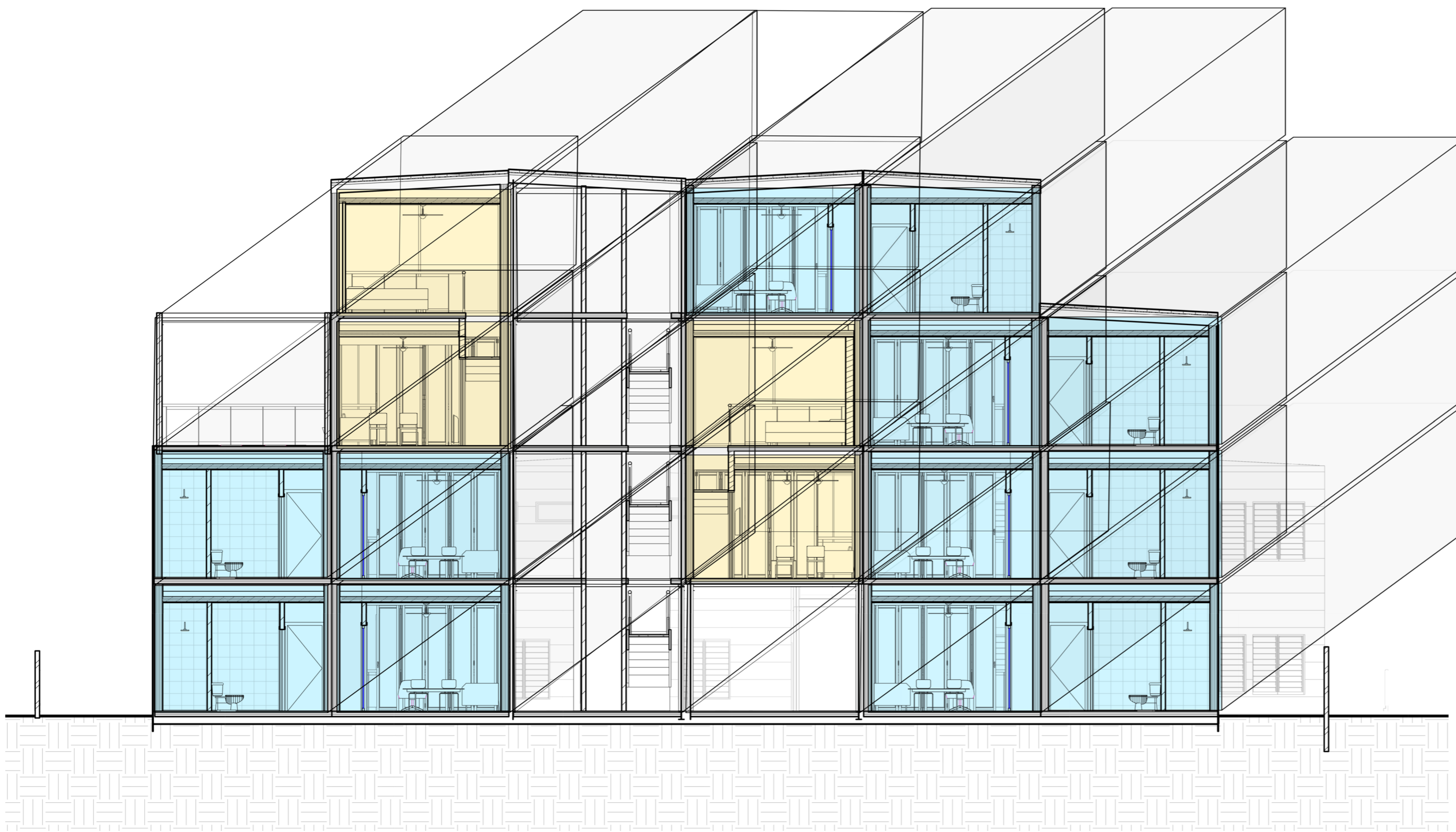
**ELEVATIONS
SOUTH**



SITE RESPONSE
SOCIAL INTERACTION

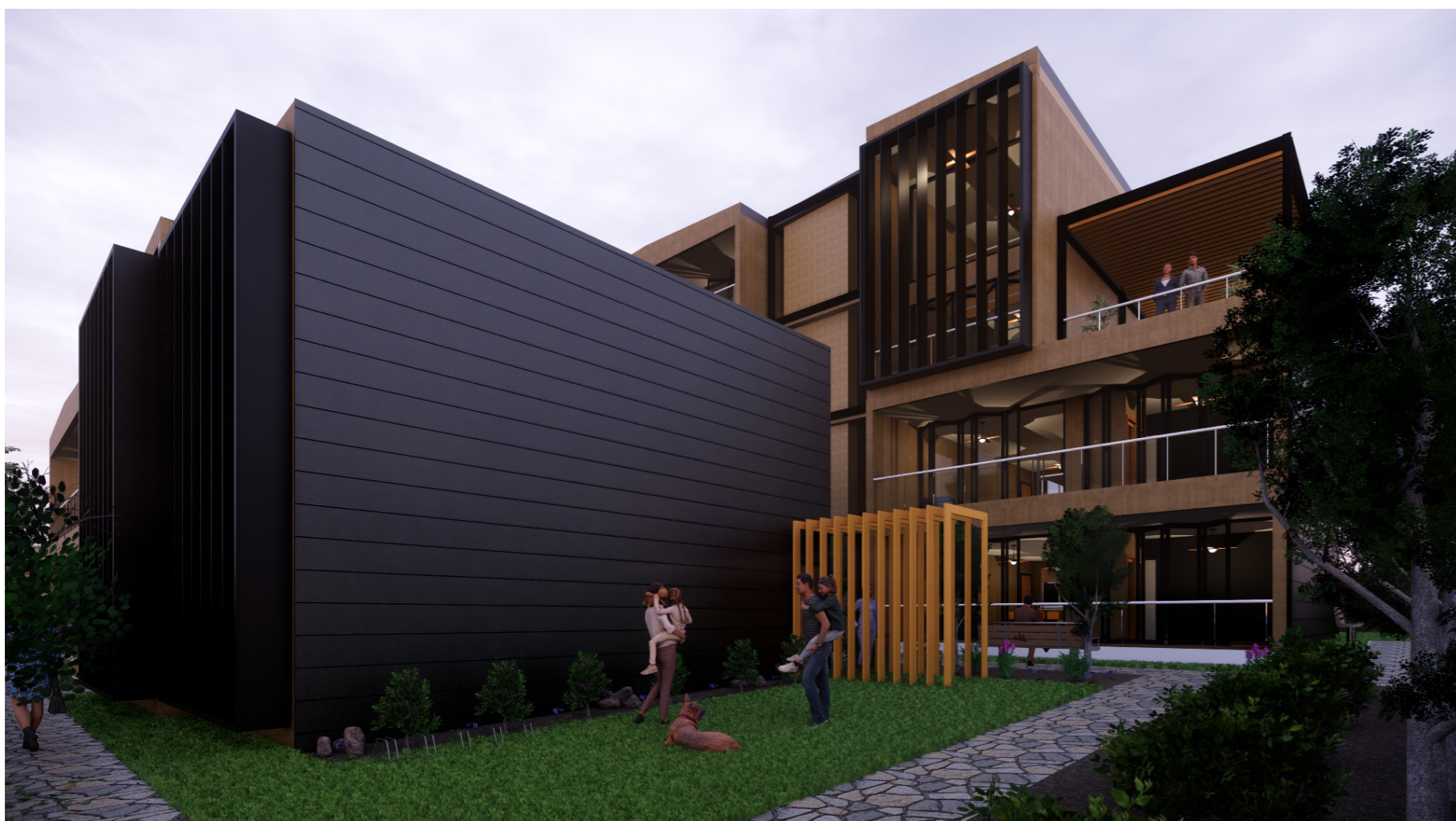


SITE RESPONSE
MODULE LAYOUT



MATERIALS
SITE FLEXIBILITY

THE MATERIAL PALETTE CHOSEN WORKS WITH THE DESIGN AIM OF CREATING A DESIGN THAT ALWAYS FITS INTO ITS SURROUNDINGS. AS REQUESTED THE DESIGN IS MOVABLE, THE EXTERIOR FAÇADE IS ABLE TO MAKE ANY SITE LOOK MODERN, YET REFLECT THE COLOURS OF THE SURROUNDING LANDSCAPE. THESE IMAGES ARE A CONTRAST OF DIFFERENT TIMES OF DAY TO SHOW THE ADAPTABILITY OF THE EXTERIOR FAÇADE TO THE OUTSIDE CONDITIONS.



MATERIAL	R-VALUE	SPANS	COMPARISON	FIRE EXPOSURE TIME
CLT 195MM 5 PLY WALL	9.625	3.8M	<ul style="list-style-type: none"> STRUCTURALLY COMPARABLE TO STEEL AND CONCRETE BUT LIGHTER. (STRUCTURLAM DESIGN GUIDE) LESS WASTAGE THAN CONCRETE AND BRICKS. SHORTER CONSTRUCTION TIME (DUE TO DRY MATERIALS AND PREFABRICATION) 	30 MIN - 167MM 45 MIN - 154MM 60 MIN - 138MM 90 MIN - 113MM 120MIN- 84MM 180MIN- 31MM
MATERIAL	R-VALUE	SPAN		
CLT 135MM 3 PLY FLOOR	6.625	3.8m		
MATERIALS	R-VALUE	THICKNESS	DIMENSIONS	
BRADFORD GOLD BATTS INSULATION	2.5	140MM	1160MM X 580MM	
MATERIAL	R-VALUE	THICKNESS	SAFETY	BENEFITS
KINGSPAN K-CLAD ROOF	1.82	65MM	<ul style="list-style-type: none"> INCREASED SAFETY DUE TO THE SAFEPRO 2.0 SYSTEM WHICH CONNECTS TO THE ROOF 	<ul style="list-style-type: none"> REDUCE THE AMOUNT OF HEAT GAIN THROUGH ROOF BY 40% FASTER BUILD TIMES THAN TRADITIONAL INSULATED METAL ROOF SYSTEMS
MATERIAL	R-VALUE	THICKNESS	BENEFITS	
FAÇADE SYSTEM (BENCHMARK KARRIER SYSTEM)	3.9	75MM	<ul style="list-style-type: none"> PERFORMS AS INSULATION, WATERPROOF MEMBRANE, AND CONNECTION BETWEEN CORE MATERIAL AND FAÇADE PANEL CONNECTION FOR KINGSPAN INTERLOCKING PLANK FAÇADE SYSTEM 	
MATERIAL	R-VALUE	THICKNESS	BENEFITS	
MEMBRANED LINED INSULATED GUTTER	3	60MM	<ul style="list-style-type: none"> PROVIDES ADDITIONAL FIRE RESISTANCE 	
MATERIAL			BENEFIT	
KINGSPAN INTERLOCKING PLANK SYSTEM			<ul style="list-style-type: none"> STRONG DURABLE DESIGN THAT HAS A LONG LIFESPAN AND ABILITY TO WITHSTAND AUSTRALIAN DIRECT SUNLIGHT WITHOUT FADING MATERIAL IS VERY REFLECTIVE OF OUTSIDE CONDITIONS AND WILL MATCH WHATEVER SITE THE MODULES ARE ASSIGNED TO. IMAGES 	

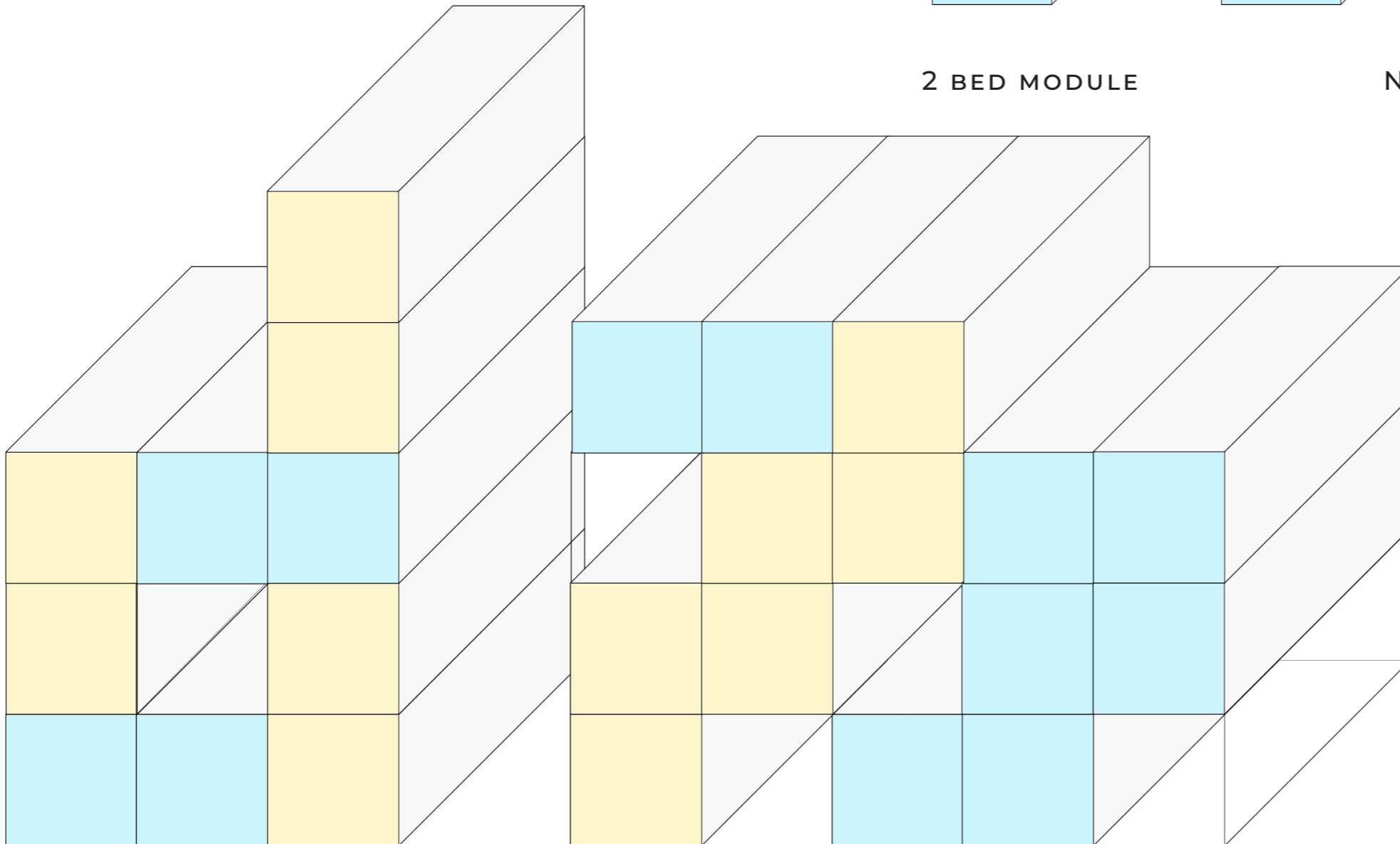
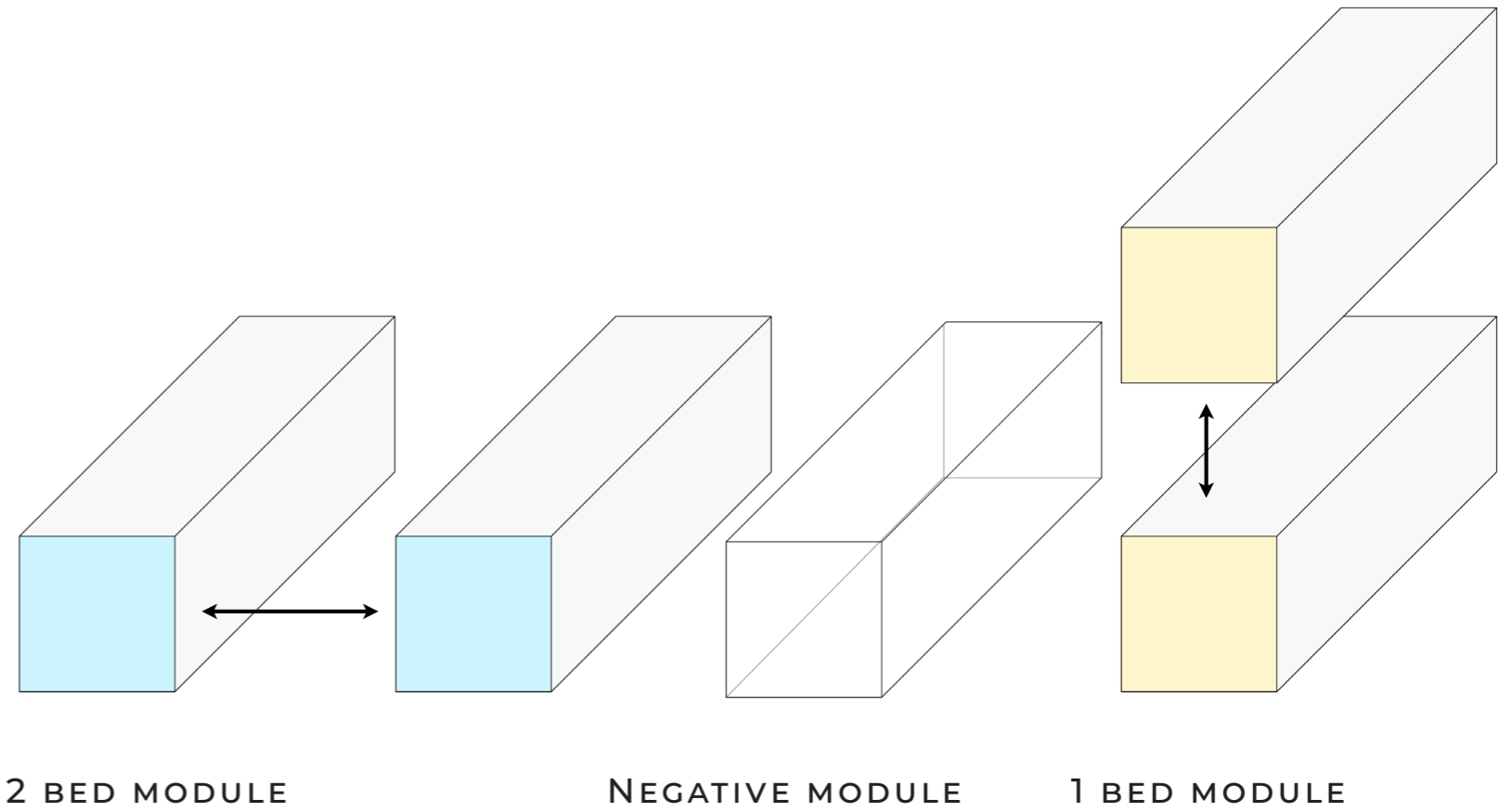
INFINITY APARTMENTS



ADAPTABILITY

THE PROJECT AIMS TO ACHIEVE TWO MAIN OBJECTIVES SET OUT BY THE BRIEF. THE FIRST BEING THE ABILITY FOR THIS DESIGN TO BE EFFECTIVE AS A SITE-LESS DESIGN, BY MAKING IT ONE OF THE MOST ADJUSTABLE SOCIAL HOUSING DESIGNS TO DATE. THE SECOND BEING THE IMPORTANCE FOR COMMUNAL INTERACTION IN SOCIAL HOUSING APARTMENTS. THE MODULES ARE CREATED SO THAT ANY FORMATION UPWARDS AND ACROSS IS ACHIEVABLE BETWEEN THE THREE UNITS. THIS MEANS THAT WHATEVER SITE RESTRICTIONS IMPOSE ON THE DESIGN, THERE WILL BE RESPONSE THROUGH THE REORGANISATION OF MODULES.

INFINITE FORMATIONS



ONE BED APARTMENT

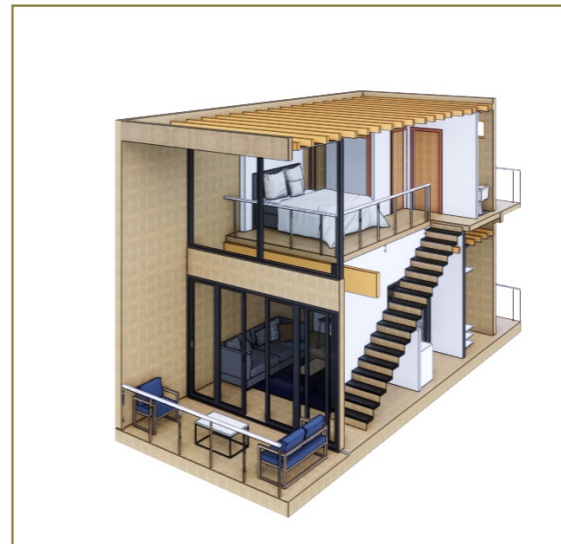
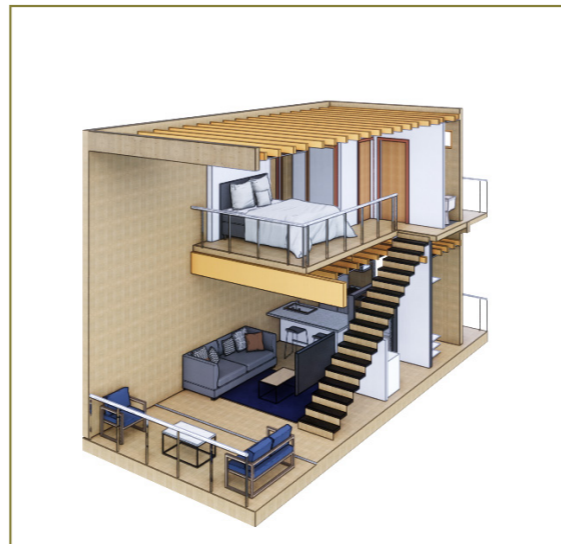
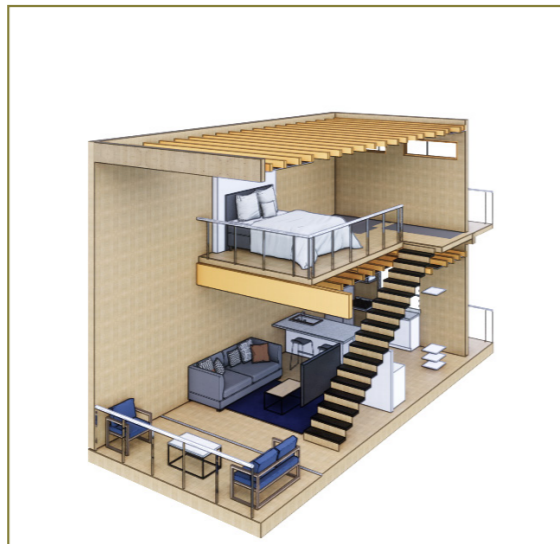
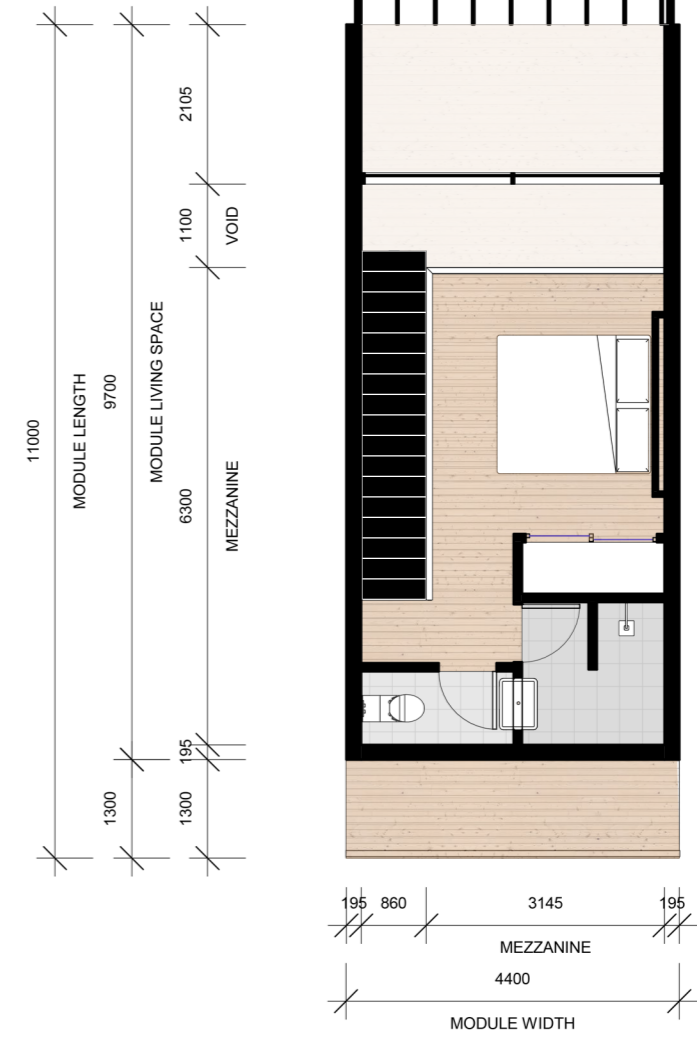
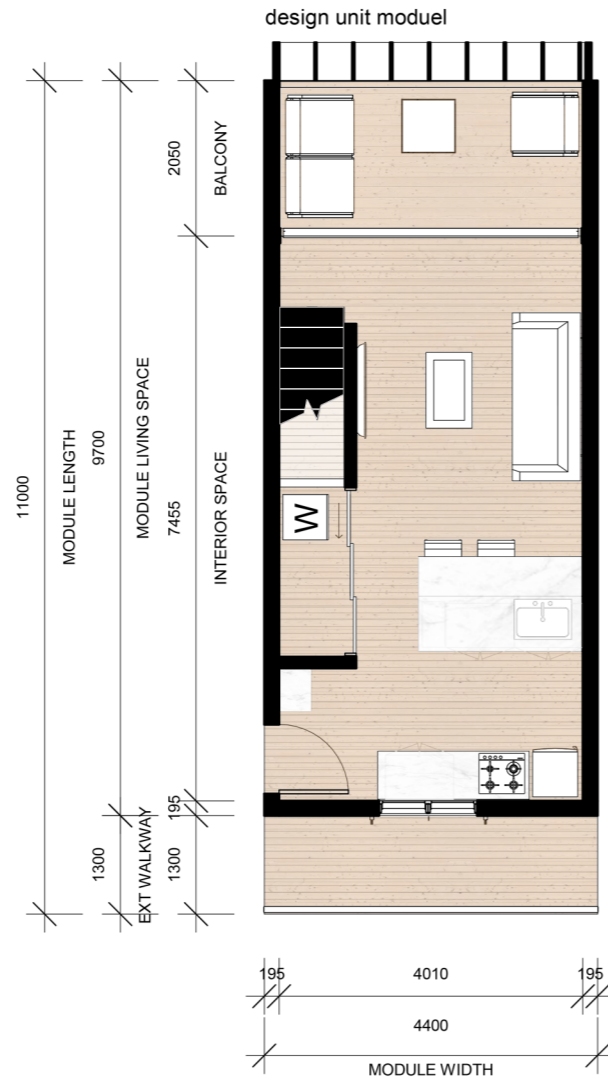
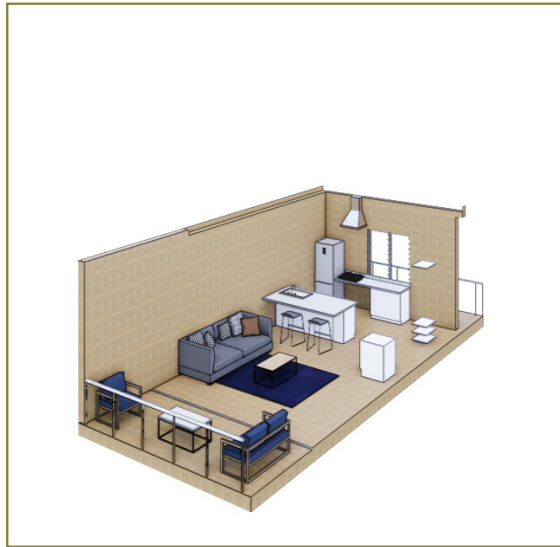
THE AIM OF THE ONE BED APARTMENT IS TO STILL ALLOW FOR SOCIAL INTERACTIONS WITHIN THE APARTMENT AND NOT BE CON-
STRICTED BY TYPICAL SMALL APARTMENT LIVING. BY SPLITTING THE LEVELS OCCUPANTS CAN HAVE VISITORS DOWNSTAIRS, YET STILL
HAVE THEIR OWN PRIVACY UPSTAIRS. BY MAXIMISING THE USE OF SPACE FOR EXAMPLE, UNDER AND ABOVE THE STAIRS, A LAUNDRY
AND CINEMA LIKE MEZZANINE HAVE BEEN CREATED. THE GLASS FRONTAGE ALLOWS FOR LIGHT TO PENETRATE INTO THE APART-
MENT AND BRING THE CLIMATE INSIDE WHEN DESIRED THROUGH LARGE BI-FOLD DOORS DOWNSTAIRS.



ONE BED APARTMENT

APARTMENT SIZE: 62m²
 BALCONY: 8m²
 APPROX COST; \$221,636

MODULE ASSEMBLY



FOR THESE EXAMPLES THE OUTSIDE WALL HAS BEEN LEFT OFF TO SHOW THE EVOLUTION OF THE INTERIOR SPACE.

TWO BED APARTMENT

COMMUNAL LIVING

THE AIM FOR THE TWO BED APARTMENT IS SIMILAR TO THE ONE BED WITH A COMMUNAL AREA ON ONE SIDE OF THE APARTMENT AND PRIVATE AREA FOR OCCUPANTS ON THE OTHER. THIS WILL ALLOW FOR A MIX OF PEOPLE LIVING TOGETHER BEING COMFORTABLE IN YOUR OWN RETREAT WHILST OTHER PEOPLE ARE IN YOUR APARTMENT. THE LINEARITY OF THE APARTMENTS IS TO TRY AND BRING THE FOCUS FROM INSIDE THE APARTMENT TO THE OUTSIDE, AS THIS WILL MAKE THE SPACES FEEL LARGER AND ENCOURAGE SOCIAL INTERACTION BETWEEN OCCUPANTS IN THE COMPLEX.

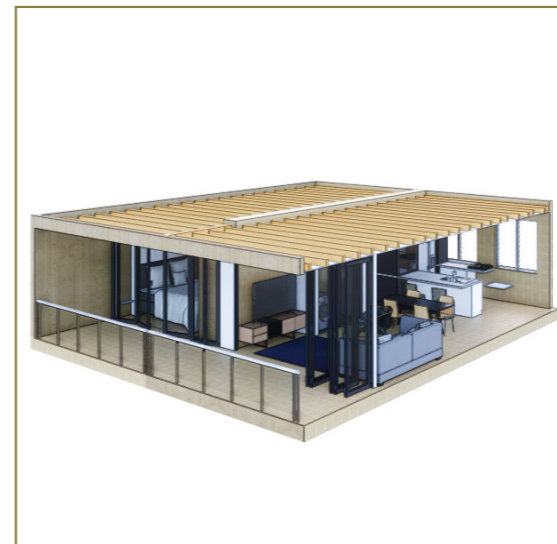
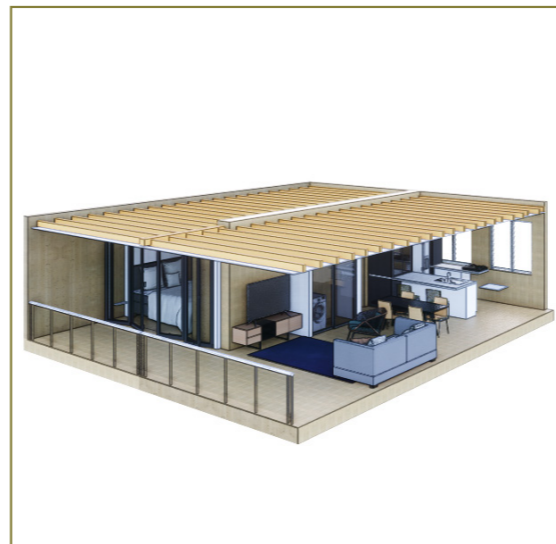
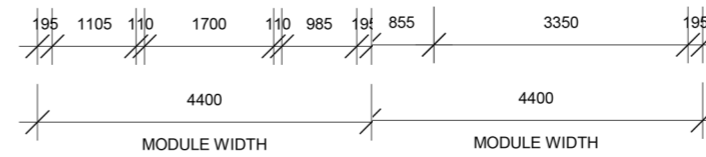
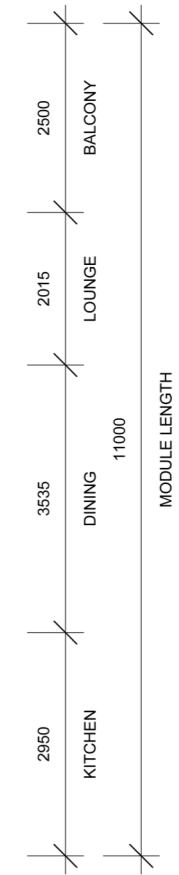
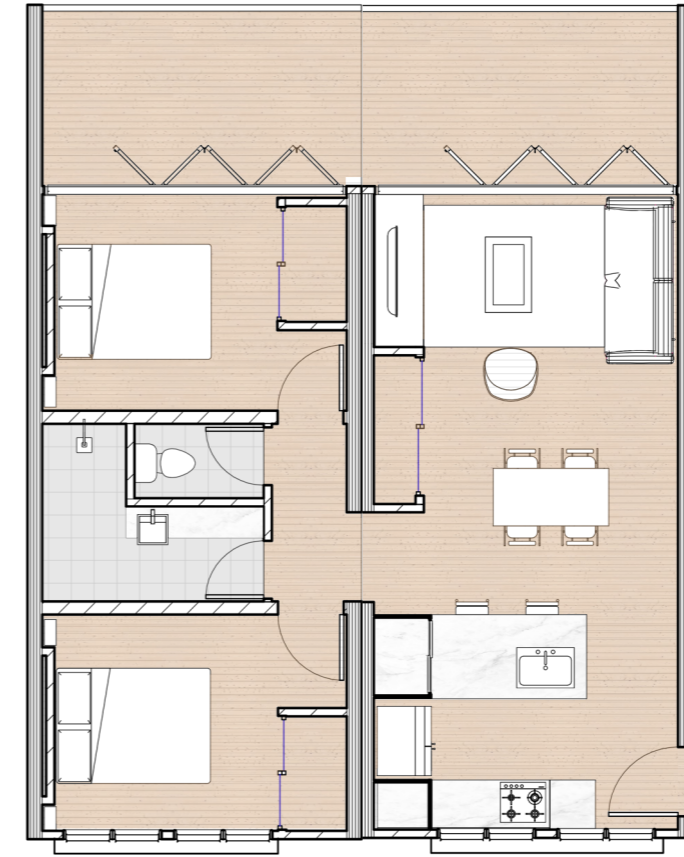
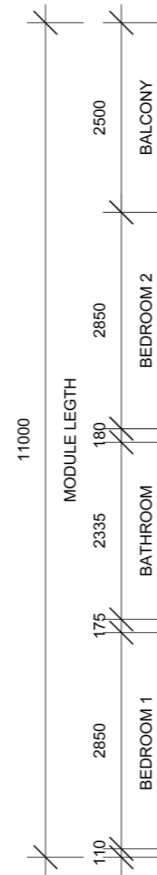


TWO BED APARTMENT PLANS

MODULE ASSEMBLY



APARTMENT SIZE: 86.4m²
 BALCONY: 20m²
 APPROX COST: \$256,003



NEGATIVE MODULE INFINITE OUTCOMES



NEGATIVE MODULE
CINEMA



NEGATIVE MODULE
OUTDOOR EXERCISE



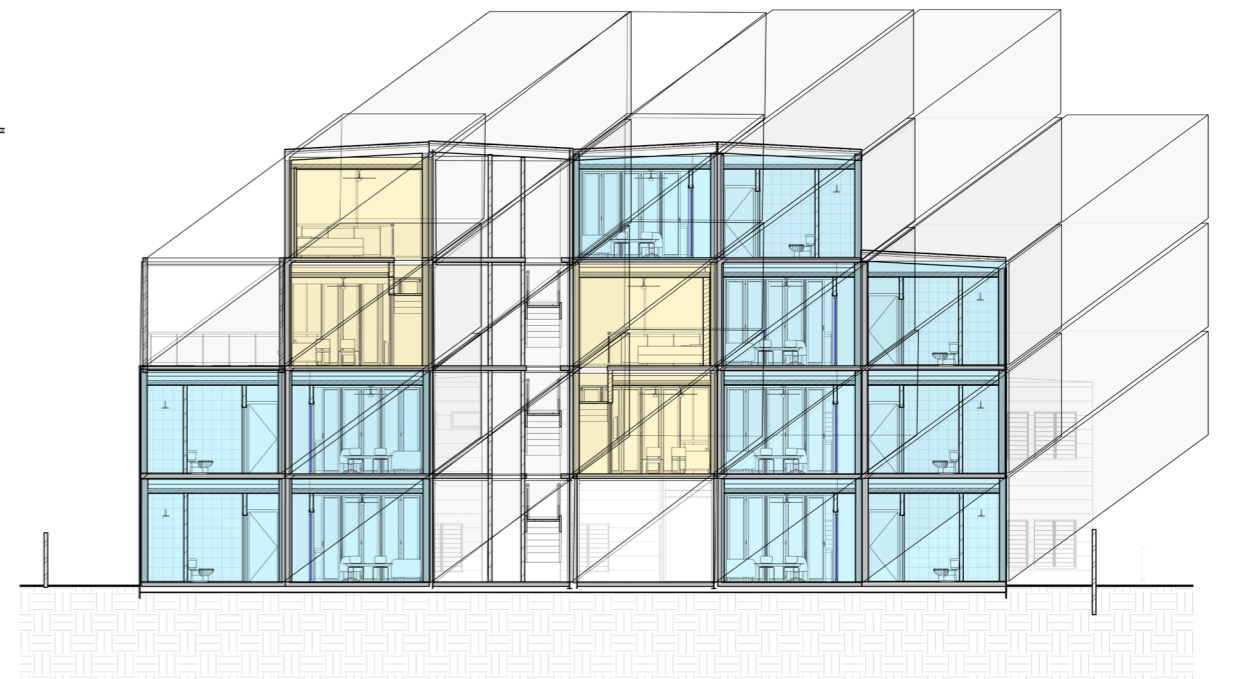
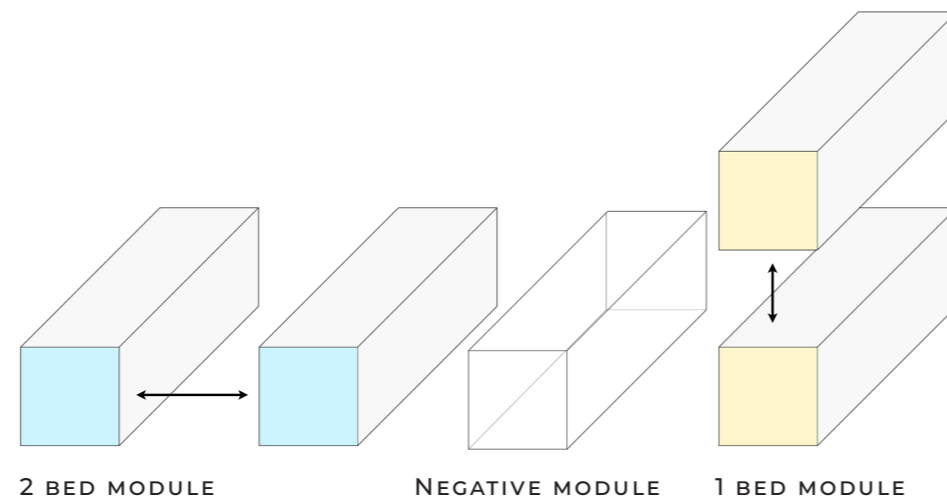
SITE RESPONSE

GROUND FLOOR



SITE RESPONSE

ROOF PLAN



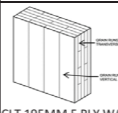


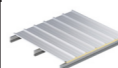



MATERIALS

SITE FLEXIBILITY



THE MATERIAL PALETTE CHOSEN WORKS WITH THE DESIGN AIM OF CREATING A DESIGN THAT ALWAYS FITS INTO IT'S SURROUNDINGS. AS REQUESTED THE DESIGN IS MOVABLE, THE EXTERIOR FACADE IS ABLE TO MAKE ANY SITE LOOK MODERN, YET REFLECT THE COLOURS OF THE SURROUNDING LANDSCAPE. THESE IMAGES ARE A CONTRAST OF DIFFERENT TIMES OF DAY TO SHOW THE ADAPTABILITY OF THE EXTERIOR FACADE TO THE OUTSIDE CONDITIONS.



 CLT 195MM 5 PLY WALL	9.625	3.8M	<ul style="list-style-type: none"> STRUCTURALLY COMPARABLE TO STEEL AND CONCRETE BUT LIGHTER. (STRUCTURLAM DESIGN GUIDE) LESS WASTAGE THAN CONCRETE AND BRICKS. SHORTER CONSTRUCTION TIME (DUE TO DRY MATERIALS AND PREFABRICATION) 	FIRE EXPOSURE TIME 30 MIN - 167MM 45 MIN - 154MM 60 MIN - 138MM 90 MIN - 113MM 120MIN - 84MM 180MIN - 31MM
 CLT 135MM 3 PLY FLOOR	6.625	3.8m		
 BRADFORD GOLD BATTS INSULATION	2.5	140MM	1160MM X 580MM	
 KINGSPAN K-CLAD ROOF	1.82	65MM	SAFETY <ul style="list-style-type: none"> INCREASED SAFETY DUE TO THE SAFEPRO 2.0 SYSTEM WHICH CONNECTS TO THE ROOF 	BENEFITS <ul style="list-style-type: none"> REDUCE THE AMOUNT OF HEAT GAIN THROUGH ROOF BY 40% FASTER BUILD TIMES THAN TRADITIONAL INSULATED METAL ROOF SYSTEMS
 FAÇADE SYSTEM (BENCHMARK KARRIER SYSTEM)	3.9	75MM	BENEFITS <ul style="list-style-type: none"> PERFORMS AS INSULATION, WATERPROOF MEMBRANE, AND CONNECTION BETWEEN CORE MATERIAL AND FAÇADE PANEL CONNECTION FOR KINGSPAN INTERLOCKING PLANK FAÇADE SYSTEM 	
 MEMBRANED LINED INSULATED GUTTER	3	60MM	BENEFITS <ul style="list-style-type: none"> PROVIDES ADDITIONAL FIRE RESISTANCE 	
 KINGSPAN INTERLOCKING PLANK SYSTEM			BENEFIT <ul style="list-style-type: none"> STRONG DURABLE DESIGN THAT HAS A LONG LIFESPAN AND ABILITY TO WITHSTAND AUSTRALIAN DIRECT SUNLIGHT WITHOUT FADING MATERIAL IS VERY REFLECTIVE OF OUTSIDE CONDITIONS AND WILL MATCH WHATEVER SITE THE MODULES ARE ASSIGNED TO. IMAGES 	



Design Life Cycle Inventory

Assessed by :

Certified by :
26 April 2020

People and Equipment

Equipment Name	Category	Description	Units	Maintenance Interval (Years)	Initial Quantity	Recurring Quantity
Compactor Roller, Vibratory Steel, 25t	External works	Level and grade site	hrs	200	3.44	0
Trade Staff (Small Electrical Equipment)	External works	Level and grade surface	hrs	200	3.44	0
Trade Staff (Small Electrical Equipment)	Domestic kitchen fittings and equipment	Install Refrigerator	hrs	10	.25	.5
Offsite Manufacturing / Prefabrication Process	Domestic kitchen fittings and equipment	Manufacture fridge	hrs	10	5	10
Offsite Manufacturing / Prefabrication Process	Services equipment	Airconditioning Factory Processes	hrs	20	20	20
Trade Staff (Small Electrical Equipment)	Services equipment	Install Airconditioning Unit	hrs	20	2	2
Trade Staff (Small Electrical Equipment)	Services equipment	Inspect and Maintain heat pump	hrs	1	.5	15
Trade Staff (Small Electrical Equipment)	Services equipment	Plumber for HWS installation	hrs	10	4	8
Offsite Manufacturing / Prefabrication Process	Services equipment	Hot Water Unit Assembly	hrs	10	5	10
Trade Staff (Small Electrical Equipment)	Domestic kitchen fittings and equipment	Install Cooker	hrs	15	.2	.4
Offsite Manufacturing / Prefabrication Process	Domestic kitchen fittings and equipment	Making the cooker	hrs	15	20	40
Trade Staff (Small Electrical Equipment)	Fittings, furnishings and equipment	Electrician Fit Lights	hrs	15	.06	.12
Trade Staff (No Equipment, labour transport only)	Fittings, furnishings and equipment	Change Light Bulbs	hrs	15.2	.01	.01
Trade Staff (Small Electrical Equipment)	Domestic kitchen fittings and equipment	Install washing machine	hrs	10	.75	1.5
Offsite Manufacturing / Prefabrication Process	Domestic kitchen fittings and equipment	Making the Washer	hrs	10	5	10
Trade Staff (Small Electrical Equipment)	Domestic kitchen fittings and equipment	Install dishwasher	hrs	9	.75	2.25
Offsite Manufacturing / Prefabrication Process	Domestic kitchen fittings and equipment	Making the dishwasher	hrs	9	5	15
Trade Staff (No Equipment, labour transport only)	Services equipment	Labourer (0.2hrs/m3)	hrs	150	2.4	0
Loader / Backhoe	Services equipment	Excavation & Backfilling (0.2hrs/m3)	hrs	150	2.4	0
Front End Loader, Articulated, 25t	Services equipment	Excavation & Backfilling (0.08hrs/m3)	hrs	150	.96	0
Highway 4 x 6 Dump Truck	Services equipment	Excavation & Backfilling (0.1hrs/m3)	hrs	150	1.2	0
Large Electrical Equipment (eg mixer)	Services equipment	Vibrating Plate (0.1hrs/m3)	hrs	150	1.2	0
Trade Staff (Small Electrical Equipment)	Fittings, furnishings and equipment	Install washing machine	hrs	20	.75	.75
Offsite Manufacturing / Prefabrication Process	Fittings, furnishings and equipment	Making the Washer	hrs	20	5	5
Trade Staff (Small Electrical Equipment)	Fittings, furnishings and equipment	Install dishwasher	hrs	18	.75	.75
Offsite Manufacturing / Prefabrication Process	Fittings, furnishings and equipment	Making the dishwasher	hrs	18	5	5
Trade Staff (Small Electrical Equipment)	Fittings, furnishings and equipment	Install washing machine	hrs	20	.75	.75
Offsite Manufacturing / Prefabrication Process	Fittings, furnishings and equipment	Making the Washer	hrs	20	5	5
Offsite Manufacturing / Prefabrication Process	External walls	Offsite manufacturing of ballustrade	hrs	75	4.25	0
Trade Staff (Small Electrical Equipment)	External walls	Install Ballustrade	hrs	75	12.75	0
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber fit shower base	hrs	75	2	0
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber to fit shower tap combination set	hrs	25	1	1
Trade Staff (Small Electrical Equipment)	Sanitary installations	Fit shower enclosure	hrs	25	3	3
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber Lay PVC waste water pipework	hrs	700	.3	0
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber lay copper pipe water supply	hrs	150	.11	0
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber fit WC	hrs	150	2.75	0
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber Lay PVC waste water pipework	hrs	700	.3	0
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber lay copper pipe water supply	hrs	150	.11	0
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber fit tap set	hrs	15	.5	1
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber fix wall basin	hrs	150	2	0
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber Lay PVC waste water pipework	hrs	700	.3	0
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber lay copper pipe water supply	hrs	150	.11	0
Trade Staff (Small Electrical Equipment)	External walls	install insulation	hrs	150	10.96	0
Trade Staff (Small Electrical Equipment)	Finishes to ceilings	Install plasterboard	hrs	45	30.96	0
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prepare wall and apply primer	hrs	50	9.68	0
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply 2nd coat	hrs	20	9.68	9.68
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply final coat	hrs	10	9.68	19.35
Remote Trade Staff (Small Electrical Equipment)	Floors	Install timber floor (0.5hrs for 200mm)	hrs	150	29.02	0
Trade Staff (Small Electrical Equipment)	External walls	Installation of Door (3 hinges)	hrs	50	2.5	0
Trade Staff (Small Electrical Equipment)	External walls	Fixing of door frame (metal)	hrs	50	3	0
Trade Staff (Small Electrical Equipment)	External walls	Painter undercoat	hrs	50	1.42	0
Trade Staff (Small Electrical Equipment)	External walls	Painter primer	hrs	20	1.42	1.42
Trade Staff (Small Electrical Equipment)	External walls	Painter Top Coat	hrs	10	1.42	2.84
Trade Staff (Small Electrical Equipment)	External walls	Painter, prepare wall for primer	hrs	20	.71	.71
Trade Staff (Small Electrical Equipment)	External walls	Painter, prepare wall for undercoat	hrs	50	.71	0
Trade Staff (Small Electrical Equipment)	External walls	Painter prepare wall for top coat	hrs	10	.71	1.42

Equipment Name	Category	Description	Units	Maintenance Interval (Years)	Initial Quantity	Recurring Quantity
Trade Staff (Small Electrical Equipment)	External walls	Installation of Door	hrs	50	2	0
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prepare wall and apply primer	hrs	50	3.02	0
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply 2nd coat	hrs	20	3.02	3.02
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply final coat	hrs	10	3.02	6.05
Trade Staff (Small Electrical Equipment)	Services equipment	Electrician	hrs	15	35.83	71.67
Trade Staff (Small Electrical Equipment)	External walls	Install Windows	hrs	44	5.4	0
Trade Staff (Small Electrical Equipment)	Services equipment	Install sprinkler	hrs	10	.5	1
Offsite Manufacturing / Prefabrication Process	Services equipment	Manufacturer sprinkler	hrs	10	1	2
Trade Staff (Small Electrical Equipment)	Services equipment	test sprinkler monthly	hrs	1	.02	.59
Trade Staff (Small Electrical Equipment)	Services equipment	Inspection annual regulatory sign-off	hrs	1	.18	5.4
Trade Staff (Small Electrical Equipment)	Internal finishes	Tiler	hrs	75	10	0
Concrete Pump	Substructure	Pour Concrete	hrs	150	.03	0
Trade Staff (Small Electrical Equipment)	Substructure	Concreter pour concrete	hrs	150	.08	0
Trade Staff (Small Electrical Equipment)	Substructure	Install reinforcement	hrs	150	10.1	0
Trade Staff (Small Electrical Equipment)	External works	Drive digger	hrs	150	2.38	0
Trench Digger / Dingo	External works	Digger	hrs	150	2.38	0
Trade Staff (Small Electrical Equipment)	Internal finishes	install cornices and skirting	hrs	51	6.9	0
Trade Staff (Small Electrical Equipment)	Cornices & Shadowlines	Install skirting	hrs	30	6.9	0
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prepare wall and apply primer	hrs	50	1.46	0
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply 2nd coat	hrs	20	1.46	1.46
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply final coat	hrs	10	1.46	2.91
Trade Staff (Small Electrical Equipment)	External walls	install insulation	hrs	150	6.6	0
Trade Staff (Small Electrical Equipment)	Internal walls and partitions	Carpenter Install 2.4m Studs (100x38)	hrs	69	5.95	0
Trade Staff (Small Electrical Equipment)	Internal walls and partitions	carpenter install noggins 1 m (100x38mm)	hrs	69	3.02	0
Trade Staff (Small Electrical Equipment)	Internal walls and partitions	Carpenter install plates	hrs	69	7.55	0
Trade Staff (Small Electrical Equipment)	Wall finishes	Install plasterboards	hrs	39	31.05	0
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prepare wall and apply primer	hrs	50	11.64	0
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply 2nd coat	hrs	20	11.64	11.64
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply final coat	hrs	10	11.64	23.29
Trade Staff (Small Electrical Equipment)	Fittings, furnishings and equipment	assembly	hrs	25	8	8
Offsite Manufacturing / Prefabrication Process	Fittings, furnishings and equipment	hardware, plastic, misc	hrs	25	4	4
Offsite Manufacturing / Prefabrication Process	Fittings, furnishings and equipment	Benchtop Manufacturing	hrs	25	.8	.8
Trade Staff (Small Electrical Equipment)	Fittings, furnishings and equipment	Installation	hrs	25	.4	.4
Offsite Manufacturing / Prefabrication Process	Roof	Offsite manufacture	hrs	84	11.29	0
Trade Staff (Small Electrical Equipment)	Roof	Install truss	hrs	84	1.13	0
Trade Staff (Small Electrical Equipment)	Roof	Install gutter (0.34hrs/m)	hrs	80	11.19	0
Trade Staff (Small Electrical Equipment)	Roof	Install Roofing	hrs	80	19.44	0
Offsite Manufacturing / Prefabrication Process	Roof	Glue foil to glasswool insulation	hrs	30	5.83	0
Trade Staff (No Equipment, labour transport only)	Roof	Installation in roof	hrs	50	5.1	0
Offsite Manufacturing / Prefabrication Process	Lowest floor construction	Factory Assembly	hrs	90	.43	0
Trade Staff (Small Electrical Equipment)	Lowest floor construction	Install Framing	hrs	75	15.91	0
Trade Staff (Small Electrical Equipment)	Lowest floor construction	Install Bearers	hrs	75	16.77	0
Trade Staff (Small Electrical Equipment)	Lowest floor construction	Install Subfloor	hrs	51	18.06	0
Trade Staff (Small Electrical Equipment)	External walls	Install wall	hrs	100	41.18	0
Crane	Frame	Crane, lift panels into place	hrs	150	12.87	0
Trade Staff (Small Electrical Equipment)	External walls	Install Windows	hrs	44	1.39	0
Trade Staff (Small Electrical Equipment)	External walls	Install flyscreens	hrs	20	1.8	1.8

Materials Summary

Material	Mass(kg)	Volume
Concrete Unreinforced	9,441	4
Timber Cross Laminated Timber	5,148	7
Timber Hardwood	2,534	3
Ferrous Metals Steel	2,018	0
Timber Softwood	1,878	3
Timber Medium Density Fibreboard (MDF)	1,355	2
Timber Glue Laminated	1,290	2
	803	0
Timber Particle Board	656	1
Rock and Stone Polished	333	0
All Other Materials	0	0

Materials Detail

Material Name	Category	Template Name	Description	Units	Quantity	Material Life (years)	Recurring Quantity	Recycled Content	Recycling Rate
Glass Flat Glass	fittings and equipment	Cooking Res, stove and oven Em	Ceramic glass cooktop	kg	6	13	12	0%	0%
Ferrous Metals Steel Stainless Unspecified	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker casing	kg	43	13	86	40.33%	80%
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	kg	.09	13	.18	35.33%	57.33%
Paints and Finishes Unspecified 1 Coat	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	kg	7.2	13	14.4	0%	0%
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	kg	.18	13	.36	29%	48%
Insulation Blankets and Batts Mineral Wool Blanket R 1.5	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	kg	1.1	13	2.2	0%	0%
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	kg	.12	13	.24	5%	20%
Metals (Non-Ferous) Zinc	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	kg	.2	13	.4	22.5%	41.5%
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	kg	2	13	2	0%	0%
Plant Based Products (non Timber) Paper General	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	kg	4	13	8	75%	0%
Finished Products Electrical Goods Light Fittings Flourescent Globes Compact	General fittings, furnishings and equipment	Lighting Residential CFL Med Natural Light	Light Globes For Internal Fittings	kg	.01	10	.03	0%	0%
Ferrous Metals Steel Coated Sheet Zinc Coated & Coloured Sheet 0.43mm	General fittings, furnishings and equipment	Lighting Residential CFL Med Natural Light	Light fitting	kg	.04	15	.08	40.33%	80%
Glass Flat Glass	General fittings, furnishings and equipment	Lighting Residential CFL Med Natural Light	Light Fittings	kg	.02	15	.04	0%	0%
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Clothes washer	kg	43	10	86	40.33%	80%
Ferrous Metals Iron Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Clothes washer	kg	.4	10	.8	40.33%	71.75%
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Aluminium	kg	2.7	10	5.4	35.33%	57.33%
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	kg	1.2	10	2.4	29%	48%
Rubber Synthetic	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	kg	1.1	10	2.2	0%	0%
Plastics Polypropylene Injection Moulding	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	kg	9.1	10	18.2	0%	0%
Plastics Polyvinyl Chloride (PVC) Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	kg	.5	10	1	5%	20%
Plastics General Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	kg	.8	10	1.6	0%	0%
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	15.4	9	46.2	40.33%	80%
Metals (Non-Ferous) Zinc	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	.02	9	.06	0%	0%
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	.39	9	1.17	35.33%	57.33%
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	.92	9	2.76	29%	48%
Plastics High Density Polyethylene (HDPE) Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	.02	9	.06	5%	20%
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	.66	9	1.98	5%	20%

Material Name	Category	Technical Name	Description	Units	Quantity	Material Life (years)	Recurring Quantity	Recycled Content	Recycling Rate
Plastics Polypropylene Injection Moulding	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	8.81	9	26.43	0%	0%
Plastics ABS Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	.8	9	2.4	5%	20%
Ferrous Metals Steel Stainless Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	7.42	9	22.26	40.33%	80%
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	1	9	3	0%	0%
Plastics General Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	1.16	9	3.48	0%	0%
Asphalt and Bitumen Asphalt Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	9.5	9	28.5	0%	0%
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	kg	1.02	9	3.05	0%	0%
Plastics Polypropylene Injection Moulding	External drainage	150mm Internal Diameter Poly sewer pipe	Polypropelene pipe 150mm ID	m	20	50	0	0%	0%
Ferrous Metals Steel General Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Clothes washer	kg	43	20	43	40.33%	80%
Ferrous Metals Iron Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Clothes washer	kg	.4	20	.4	40.33%	71.75%
Metals (Non-Ferous) Aluminium Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Aluminium	kg	2.7	20	2.7	35.33%	57.33%
Metals (Non-Ferous) Copper Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	kg	1.2	20	1.2	29%	48%
Rubber Synthetic	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	kg	1.1	20	1.1	0%	0%
Plastics Polypropylene Injection Moulding	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	kg	9.1	20	9.1	0%	0%
Plastics Polyvinyl Chloride (PVC) Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	kg	.5	20	.5	5%	20%
Plastics General Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	kg	.8	20	.8	0%	0%
Generic Cost Adjustment Factors Cost Only Factors (No Environmental Impacts Adjustment)	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	cost adjustment for extended warranty	# (Default)	84	20	84	0%	0%
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	15.4	18	15.4	40.33%	80%
Metals (Non-Ferous) Zinc	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	.02	18	.02	0%	0%
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	.39	18	.39	35.33%	57.33%
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	.92	18	.92	29%	48%
Plastics High Density Polyethylene (HDPE) Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	.02	18	.02	5%	20%
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	.66	18	.66	5%	20%
Plastics Polypropylene Injection Moulding	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	8.81	18	8.81	0%	0%
Plastics ABS Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	.8	18	.8	5%	20%
Ferrous Metals Steel Stainless Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	7.42	18	7.42	40.33%	80%
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	1	18	1	0%	0%
Plastics General Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	1.16	18	1.16	0%	0%
Asphalt and Bitumen Asphalt Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	9.5	18	9.5	0%	0%

Material Name	Category	Trade Name	Description	Units	Quantity	Material Life (years)	Recurring Quantity	Recycled Content	Recycling Rate
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	kg	1.02	18	1.02	0%	0%
Generic Cost Adjustment Factors Cost Only Factors (No Environmental Impacts Adjustment)	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Cost adjustment for extended warranty	# (Default)	106	18	106	0%	0%
Ferrous Metals Steel General Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Clothes washer	kg	43	20	43	40.33%	80%
Ferrous Metals Iron Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Clothes washer	kg	.4	20	.4	40.33%	71.75%
Metals (Non-Ferous) Aluminium Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Aluminium	kg	2.7	20	2.7	35.33%	57.33%
Metals (Non-Ferous) Copper Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	kg	1.2	20	1.2	29%	48%
Rubber Synthetic	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	kg	1.1	20	1.1	0%	0%
Plastics Polypropylene Injection Moulding	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	kg	9.1	20	9.1	0%	0%
Plastics Polyvinyl Chloride (PVC) Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	kg	.5	20	.5	5%	20%
Plastics General Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	kg	.8	20	.8	0%	0%
Generic Cost Adjustment Factors Cost Only Factors (No Environmental Impacts Adjustment)	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	cost adjustment for extended warranty	# (Default)	84	20	84	0%	0%
Ferrous Metals Steel Stainless Unspecified	External enclosing walls above ground level	Balustrade, Steel End Posts and Steel Rails	Brackets and bolts	kg	2.12	75	0	40.33%	80%
Ferrous Metals Steel General Unspecified	External enclosing walls above ground level	Balustrade, Steel End Posts and Steel Rails	Hand, End and Middle Rails	kg	56.52	75	0	40.33%	80%
Ceramics Porcelain Sanitary Products General	Fittings, furnishings and equipment	Shower unit	900mm x900mm Ceramic Shower base	kg	35	50	0	0%	0%
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	Shower unit	Showerhead	kg	1	25	1	40.33%	80%
Glass Flat Glass	Fittings, furnishings and equipment	Shower unit	Shower screens (2x sides)	#	2	25	2	0%	0%
Metals (Non-Ferous) Copper Unspecified	Sanitary installations	Bathroom services pipework	Copper pipes	#	12	150	0	29%	48%
Plastics Polyvinyl Chloride (PVC) PVC Pipe	Sanitary installations	Bathroom services pipework	Drain pipes	#	5	200	0	5%	20%
Ceramics Porcelain Sanitary Products Toilet	Fittings, furnishings and equipment	WC	Toilet	# (Default)	1	50	0	0%	0%
Metals (Non-Ferous) Copper Unspecified	Sanitary installations	Bathroom services pipework	Copper pipes	#	12	150	0	29%	48%
Plastics Polyvinyl Chloride (PVC) PVC Pipe	Sanitary installations	Bathroom services pipework	Drain pipes	#	5	200	0	5%	20%
Ceramics Porcelain Sanitary Products Bathroom Sink	Fittings, furnishings and equipment	Wall Basin/sink (ceramic)	Ceramic Wall Basin	# (Default)	1	50	0	0%	0%
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	Wall Basin/sink (ceramic)	Taps (0.5kg each)	kg	1	15	2	40.33%	80%
Metals (Non-Ferous) Copper Unspecified	Sanitary installations	Bathroom services pipework	Copper pipes	#	12	150	0	29%	48%
Plastics Polyvinyl Chloride (PVC) PVC Pipe	Sanitary installations	Bathroom services pipework	Drain pipes	#	5	200	0	5%	20%
Insulation Blankets and Batts Glass Fibre Batts R 2.0	Insulation	Bulk Insulation - 90mm Fibreglass (R2.0)	R2.0 fibreglass batts 90mm	m2	86	50	0	0%	0%
Plaster and Mineral Derived Products 100% Primary Gypsum Plaster Unspecified	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	Plaster-based cement for back-blocking	#	1,892	45	0	0%	0%
Plaster and Mineral Derived Products 100% Primary Gypsum Plasterboard 12mm Sheets	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	12mm back-blocking plasterboard	m2 (Default)	15.48	45	0	0%	0%
Resins and Adhesives Epoxy Resin	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	acrylic adhesive	#	1,376	45	0	0%	0%
Plaster and Mineral Derived Products 100% Primary Gypsum Plasterboard 12mm Sheets	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	12mm plasterboard	m2 (Default)	86	45	0	0%	0%
Ferrous Metals Steel General Unspecified	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	Screws	kg	43	45	0	40.33%	80%
Timber Softwood Unspecified	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	Timber ceiling battens	#	191.11	45	0	0%	0%
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Top Coat	m2 (Default)	86	10	172	0%	0%
Ferrous Metals Steel General Unspecified	Paint - Walls	Internal Finish - Paint (standard)	Consumables (paint tins, rollers etc)	kg	.86	17.5	.86	40.33%	80%

Material Name	Category	Template Name	Description	Units	Quantity	Material Life (years)	Recurring Quantity	Recycled Content	Recycling Rate
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Primer	m2 (Default)	86	50	0	0%	0%
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Undercoat	m2 (Default)	86	20	86	0%	0%
Timber Cross Laminated Timber Unspecified	Floors	CLT Timber Floor-cubic meters (m3)(Superstructure)	CLT floor	m	10.8	150	0	0%	0%
Timber General Unspecified	External doors	Floor - SolidCoreTimber/SteelJam/Painted (#)	Solidcore Door	kg	75	50	0	0%	0%
Ferrous Metals Steel General Unspecified	External doors	Door - SolidCoreTimber/SteelJam/Painted (#)	Door Jam	#	5	150	0	40.33%	80%
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	Door - SolidCoreTimber/SteelJam/Painted (#)	Door Hardware (Handles, Hinges, Locks)	kg	5	150	0	40.33%	80%
Paints and Finishes Unspecified 1 Coat	External Paint, Textures and Renders	External Finish - Paint (SuperStructure)	Top Coat	m2 (Default)	18.9	10	37.8	0%	0%
Paints and Finishes Unspecified 1 Coat	External Paint, Textures and Renders	External Finish - Paint (SuperStructure)	Primer	m2 (Default)	18.9	50	0	0%	0%
Paints and Finishes Unspecified 1 Coat	External Paint, Textures and Renders	External Finish - Paint (SuperStructure)	Undercoat	m2 (Default)	18.9	20	18.9	0%	0%
Ferrous Metals Steel General Unspecified	External Paint, Textures and Renders	External Finish - Paint (Superstructure)	Consumables (paint tins, rollers, etc)	kg	.19	17.5	.19	40.33%	80%
Timber General Unspecified	External doors	Double Door, Hollow Core, Steel jam	Door	kg	80	50	0	0%	0%
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	Double Door, Hollow Core, Steel Jam	Door Hardware (Handles, Hinges, Locks)	kg	4	150	0	40.33%	80%
Ferrous Metals Steel General Unspecified	External doors	Double Door, Hollow Core, Steel jam	Steel Door Jam	#	4	150	0	40.33%	80%
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Top Coat	m2 (Default)	26.88	10	53.76	0%	0%
Ferrous Metals Steel General Unspecified	Paint - Walls	Internal Finish - Paint (standard)	Consumables (paint tins, rollers etc)	kg	.27	17.5	.27	40.33%	80%
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Primer	m2 (Default)	26.88	50	0	0%	0%
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Undercoat	m2 (Default)	26.88	20	26.88	0%	0%
Metals (Non-Ferous) Copper Unspecified	Electrical installations	Electrical Fittings - sockets, power points, wiring, embodied only (m2)	Copper electrical wire	kg	67.19	150	0	29%	48%
Plastics General Unspecified	Electrical installations	Electrical Fittings - sockets, power points, wiring, embodied only (m2)	Plastic associated with electrical wire and fittings	kg	53.75	30	0	0%	0%
Ferrous Metals Steel General Unspecified	General fittings, furnishings and equipment	Electrical Fittings - sockets, power points, wiring, embodied only (m2)	Light Fittings	kg	4.48	30	0	40.33%	80%
Plastics General Unspecified	General fittings, furnishings and equipment	Electrical Fittings - sockets, power points, wiring, embodied only (m2)	Light Fittings	kg	2.24	15	4.48	0%	0%
Ferrous Metals Steel Stainless Unspecified	External doors	External Glass Sliding Door - commercial-hardware	Steel sliders and hardware	kg	66.12	150	0	40.33%	80%
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	External Glass Sliding Door - commercial-hardware	Door Hardware (Handles, Hinges, Locks)	kg	2.2	150	0	40.33%	80%
Metals (Non-Ferous) Aluminium Unspecified	External windows	Windows single glazed aluminium frame individual components	aluminium frame	kg	34.56	44	0	35.33%	57.33%
Rubber Synthetic	External windows	Windows single glazed aluminium frame individual components	thermal break	kg	3.46	44	0	0%	0%
Glass Flat Glass	External windows	Windows single glazed aluminium frame individual components	window pane	kg	278.1	44	0	0%	0%
Glass Flat Glass	Fire and lightning protection	Fire Services Fire sprinkler	Glass bulb	kg	.24	10	.24	0%	0%
Metals (Non-Ferous) Brass	Fire and lightning protection	Fire Services Fire sprinkler	Deflector, cap etc	kg	.48	10	.96	29%	48%
Ceramics Tiles Ceramic Tiles	Wet Area Floors	Floor Covering - Tiles (ceramic/5mm)	Floor tiles	#	10	30	0	0%	0%
Cements and Limes Portland Cement Unspecified	Wet Area Floors	Floor Covering - Tiles (ceramic/5mm)	Tile grout	kg	3.1	75	0	0%	0%
Resins and Adhesives Urea Formaldehyde	Wet Area Floors	Floor Covering - Tiles (ceramic/5mm)	Sealant	kg	4	15	8	0%	0%
Plastics High Density Polyethylene (HDPE) Unspecified	Standard foundations	Footing Strip 400 x 300 concrete 40Mpa 3% rep by volume	Impermeable Lining	#	33	200	0	5%	20%
Concrete Unreinforced Portland Cement Blends 40 MPa	Standard foundations	Poured Concrete - foundations, 40MPa	Pour Concrete Foundations	m3	3.96	150	0	0%	0%
Ferrous Metals Steel General Unspecified	Standard foundations	Reinforcement Bar Foundations	Reinforcement Bar Foundations	kg	940.9	150	0	40.33%	80%

Material Name	Category	Template Name	Description	Units	Quantity	Material Life (years)	Recurring Quantity	Recycled Content	Recycling Rate
Plaster and Mineral Derived Products 100% Primary Gypsum Plaster Unspecified	Cornices & Shadowlines	Wall Finish - Plaster Cornices (m)	Cornices 25mm x 200mm	m2	8.62	51	0	0%	0%
Timber Medium Density Fibreboard (MDF) Unspecified	Cornices & Shadowlines	Wall Finish - MDF Skirtings (m)	Skirting Boards MDF 25mm x 150mm	m	43.12	30	0	0%	0%
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Top Coat	m2 (Default)	12.94	10	25.88	0%	0%
Ferrous Metals Steel General Unspecified	Paint - Walls	Internal Finish - Paint (standard)	Consumables (paint tins, rollers etc)	kg	.13	17.5	.13	40.33%	80%
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Primer	m2 (Default)	12.94	50	0	0%	0%
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Undercoat	m2 (Default)	12.94	20	12.94	0%	0%
Insulation Blankets and Batts Glass Fibre Batts R 1.5	Insulation	Bulk Insulation - 75mm Fibreglass (R1.5)	R1.5 fibreglass batts 75mm	m2	51.75	50	0	0%	0%
Timber Softwood Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	100x50mm Studs 600mm centres	#	35.94	69	0	0%	0%
Timber Softwood Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	600mm Nogs (100x50)	#	35.94	69	0	0%	0%
Timber Softwood Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Bottom plate (100x50mm)	#	21.56	69	0	0%	0%
Timber Softwood Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Top Plate (100x50mm)	#	21.56	69	0	0%	0%
Ferrous Metals Steel General Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Fastners/nails	kg	.54	69	0	40.33%	80%
Ferrous Metals Steel General Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Diagonal bracing straps	kg	1.29	69	0	40.33%	80%
Plastics High Density Polyethylene (HDPE) Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Waterproof membrane	#	21.56	69	0	5%	20%
Ferrous Metals Steel General Unspecified	Wall finishes	Wall Lining - 12mm Plasterboard, paint	Fastners and/or nails	kg	2.59	39	0	40.33%	80%
Plaster and Mineral Derived Products 100% Primary Gypsum Plasterboard 12mm Sheets	Wall finishes	Wall Lining - Plasterboard (12mm)	Plasterboard 12mm	m2 (Default)	103.5	39	0	0%	0%
Ferrous Metals Steel General Unspecified	Wall finishes	Wall Lining - Plasterboard (12mm)	Fasteners and Nails	kg	.52	39	0	40.33%	80%
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Top Coat	m2 (Default)	103.5	10	207	0%	0%
Ferrous Metals Steel General Unspecified	Paint - Walls	Internal Finish - Paint (standard)	Consumables (paint tins, rollers etc)	kg	1.03	17.5	1.03	40.33%	80%
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Primer	m2 (Default)	103.5	50	0	0%	0%
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Undercoat	m2 (Default)	103.5	20	103.5	0%	0%
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	hinges, runners, handles and other hardware like brackets etc	kg	10	25	10	40.33%	80%
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	PVC feet	kg	3	25	3	5%	20%
Timber Particle Board Indoor	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	Cabinets	m2	46	75	0	0%	0%
Timber Medium Density Fibreboard (MDF) Unspecified	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	kickboard	#	1	25	1	0%	0%
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	Kickboard covering	#	1	25	1	35.33%	57.33%
Resins and Adhesives Melamine Resin	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	Cabinet Coverings	m2	46	25	46	0%	0%
Rock and Stone Polished Granite / Basalt / Marble	Domestic kitchen fittings and equipment	Engineered Stone Benchtop	Stone Benchtop	m2	3.4	25	3.4	0%	0%
Glass Flat Glass	Domestic kitchen fittings and equipment	Engineered Stone Benchtop	Glass Content of Benchtop	m2	.2	25	.2	0%	0%
Resins and Adhesives Epoxy Resin	Domestic kitchen fittings and equipment	Engineered Stone Benchtop	Benchtop Bonding Agent	m2	.4	25	.4	0%	0%
Timber Hardwood Unspecified	Roof structure	Structure - Timber Truss 10m (0.24x0.025x10)	Top chord of trussx2 0.24x0.025x10	m3	1.35	84	0	0%	0%
Timber Hardwood Unspecified	Frame	Structure - Timber Truss 10m (0.24x0.025x10)	Bottom chord of trussx2 0.24x0.025x10	m3	1.35	84	0	0%	0%
Timber Hardwood Unspecified	Frame	Structure - Timber Truss 10m (0.24x0.025x10)	Truss Stiffener Platesx8 (0.24x1.35x1.35)	m3	.37	84	0	0%	0%
Timber Hardwood Unspecified	Frame	Structure - Timber Truss 10m (0.24x0.025x10)	Truss Uprightsx18 (0.24x0.025x0.5)	m3	.3	84	0	0%	0%

Material Name	Category	Template Name	Description	Units	Quantity	Material Life (years)	Recurring Quantity	Recycled Content	Recycling Rate
Plastics Polyvinyl Chloride (PVC) PVC Pipe	Roof drainage	Gutter - PVC	1m of 30mm thick semi circular gutter (112mm)	#	32.91	80	0	5%	20%
Ferrous Metals Steel Galvanised Structural Unspecified	Roof drainage	Gutter - PVC	Screws, bolts & fixings	kg	.99	80	0	40.33%	80%
Ferrous Metals Steel Coated Sheet Zinc Coated & Coloured Sheet 0.43mm	Roof coverings	Covering - Steel Sheetting 0.43mm corrugated	0.48mm corrugated/Custom Orb sheet	kg	479.13	80	0	40.33%	80%
Ferrous Metals Steel Stainless Unspecified	Roof coverings	Covering - Steel Sheetting 0.42mm corrugated	Fastenings	kg	.97	80	0	40.33%	80%
Insulation Blankets and Batts Glass Fibre Batts Unspecified	Insulation	Insulation - Roofing Blanket (foil-lined)	R1.3 glasswool blanket	#	97.19	50	0	0%	0%
Metals (Non-Ferous) Aluminium Unspecified	Insulation	Insulation - Roofing Blanket (foil-lined)	Foil lining	#	97.19	50	0	35.33%	57.33%
Resins and Adhesives Melamine Resin	Insulation	Insulation - Roofing Blanket (foil-lined)	Foil glue	#	97.19	50	0	0%	0%
Timber Plywood Unspecified	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Engineered I Beam Web	#	194.36	75	0	0%	0%
Resins and Adhesives Urea Formaldehyde	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Engineered I Beam Glue	#	86	75	0	0%	0%
Timber Glue Laminated Unspecified	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Bearers / End Caps	m3	1.72	75	0	0%	0%
Ferrous Metals Steel General Unspecified	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Hangers, Bolts, brackets and nails	kg	2.58	75	0	40.33%	80%
Resins and Adhesives Urea Formaldehyde	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Liquid Nails type Adhesive	kg	1.72	75	0	0%	0%
Timber Softwood Unspecified	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Engineered I Beam Flanges	#	388.72	75	0	0%	0%
Plastics Polyurethane Unspecified	Lowest floor construction	Floor Covering - 19mm particle chipboard flooring (Substructure)	Glue	kg	25.8	50	0	0%	0%
Ferrous Metals Steel General Unspecified	Lowest floor construction	Floor Covering - 19mm particle/chipboard flooring (Substructure)	Hangers, Bolts, brackets and nails	kg	.86	50	0	40.33%	80%
Timber Medium Density Fibreboard (MDF) Unspecified	Lowest floor construction	Floor Covering - 19mm particle/chipboard flooring (Substructure)	19mm Particleboard	#	86	50	0	0%	0%
Plastics High Density Polyethylene (HDPE) Unspecified	External enclosing walls above ground level	Wall, 150mm CLT, Unfinished, m2	Waterproof membrane	#	128.2	100	0	5%	20%
Timber Cross Laminated Timber Unspecified	External enclosing walls above ground level	Wall, 150mm CLT, Unfinished, m2	CLT Structure	m3	2.05	100	0	0%	0%
Ferrous Metals Steel General Unspecified	External enclosing walls above ground level	Wall, 150mm CLT, Unfinished, m2	Fasteners / nails	kg	12.87	100	0	40.33%	80%
Windows Aluminium Framed No Thermal Break Double Glaze Domestic 50% Opening	External windows	Windows, Residential, Aluminium Double Glaze, fly screen	Windows / Sliding Doors	m2 (Default)	4	44	0	0%	0%
Metals (Non-Ferous) Aluminium Unspecified	Security and Fly Screens	Fly Screen	Fly screen frame	kg	2	20	2	35.33%	57.33%
Plastics General Unspecified	Security and Fly Screens	Fly Screen	Flyscreen Mesh	#	2	20	2	0%	0%
Rubber Synthetic	Security and Fly Screens	Fly Screen	Flyscreen rubber spline	kg	1	20	1	0%	0%

Operational Energy

Type	Distribution Grid	Category	Description	Units	Annual Quantity	Life Cycle Quantity
Electricity	AU WA SWIS Residential	Refrigeration	Primary Refrigerator / Freezer Unit	MJ/year	963	28,890
Electricity	AU WA SWIS Residential	Refrigeration	Allowance for secondary refrigeration units	MJ/year	350	10,500
Electricity	AU WA SWIS Residential	Refrigeration	Freezers	MJ/year	0	0
Electricity	AU WA SWIS Residential	HVAC	Cooling	MJ/year	0	0
Electricity	AU WA SWIS Residential	HVAC	Heating	MJ/year	0	0
Electricity	AU WA SWIS Residential	Domestic Water Heating	Water heating energy demand	MJ/year	5,101.88	153,056.4
Electricity	AU WA SWIS Residential	Cooking and Food Preparation	Cooktop demand	MJ/year	835	25,050
Electricity	AU WA SWIS Residential	Cooking and Food Preparation	Oven demand	MJ/year	278.33	8,350
Electricity	AU WA SWIS Residential	Lighting	Lighting Electricity Consumption	MJ/year	0	0
Electricity	AU WA SWIS Residential	Workshops, Garage & Misc	Miscellaneous electricity demand	MJ/year	0	0
Electricity	AU WA SWIS Residential	Appliances Entertainment	Computers, other entertainment and standby	MJ/year	787	23,610
Electricity	AU WA SWIS Residential	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2 Star)	MJ/year	838.51	25,155.3
Electricity	AU WA SWIS Residential	Appliances Laundry Appliances	Clothes washing machine (79% more efficient than MEPS 1 Star)	MJ/year	372.99	11,189.6

Type	Distribution Grid	Category	Description	Units	Annual Quantity	Life Cycle Quantity
Electricity	AU WA SWIS Residential	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS 1 Star)	MJ/year	211.19	6,335.6
Electricity	AU WA SWIS Residential	Miscellaneous	Dishwashing machines (35% more efficient than MEPS 1 Star)	MJ/year	556.95	16,708.5
Electricity	AU WA SWIS Residential	Workshops, Garage & Misc	Miscellaneous electricity demand	MJ/year	0	0

Operational Water

Type	Distribution Grid	Category	Description	Units	Annual Quantity	Life Cycle Quantity
Water	Water Supply: General	Water Supply	Garden / Outdoor	kL/year	0	0
Water	Water Supply: General	Water Supply	Miscellaneous	kL/year	5	150
Water	Water Treatment: General	Water Removal and Treatment	Miscellaneous	kL/year	5	150
Water	Water Supply: General	Water Supply	Pool (Average across perth)	kL/year	0	0
Water	Water Supply: General	Water Supply	Toilets	kL/year	12	360
Water	Water Treatment: General	Water Removal and Treatment	Toilet	kL/year	12	360
Water	Water Supply: General	Water Supply	Residential Shower	kL/year	39.46	1,183.68
Water	Water Treatment: General	Water Removal and Treatment	Residential Shower	kL/year	39.46	1,183.68
Water	Water Supply: General	Water Supply	Residential Kitchen and Dishwasher	kL/year	4.93	147.96
Water	Water Treatment: General	Water Removal and Treatment	Residential Kitchen and Dishwasher	kL/year	4.93	147.96
Water	Water Supply: General	Water Supply	Residential Laundry	kL/year	7.68	230.46
Water	Water Treatment: General	Water Removal and Treatment	Residential Laundry	kL/year	7.68	230.46

Equipment Transport

Equipment Name	Category	Description	Distance	Mode
Compactor Roller, Vibratory Steel, 25t	External works	Level and grade site	75	Rigid truck
Trade Staff (Small Electrical Equipment)	External works	level and grade surface	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Domestic kitchen fittings and equipment	Install Refrigerator	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Domestic kitchen fittings and equipment	Manufacture fridge	0	Sea
Offsite Manufacturing / Prefabrication Process	Services equipment	Airconditioning Factory Processes	0	Sea
Trade Staff (Small Electrical Equipment)	Services equipment	Install Airconditioning Unit	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Services equipment	Inspect and Maintain heat pump	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Services equipment	Plumber for HWS installation	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Services equipment	Hot Water Unit Assembly	0	Sea
Trade Staff (Small Electrical Equipment)	Domestic kitchen fittings and equipment	Install Cooker	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Domestic kitchen fittings and equipment	Makeing the cooker	0	Sea
Trade Staff (Small Electrical Equipment)	Fittings, furnishings and equipment	Electrician Fit Lights	30	Trades Vehicle (No Cost)
Trade Staff (No Equipment, labour transport only)	Fittings, furnishings and equipment	Change Light Bulbs	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Domestic kitchen fittings and equipment	Install washing machine	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Domestic kitchen fittings and equipment	Making the Washer	0	Sea
Trade Staff (Small Electrical Equipment)	Domestic kitchen fittings and equipment	Install dishwasher	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Domestic kitchen fittings and equipment	Making the dishwasher	0	Sea
Trade Staff (No Equipment, labour transport only)	Services equipment	Labourer (0.2hrs/m3)	30	Trades Vehicle (No Cost)
Loader / Backhoe	Services equipment	Excavation & Backfilling (0.2hrs/m3)	75	Articulated Truck
Front End Loader, Articulated, 25t	Services equipment	Excavation & Backfilling (0.08hrs/m3)	75	Articulated Truck
Highway 4 x 6 Dump Truck	Services equipment	Excavation & Backfilling (0.1hrs/m3)	25	Rigid truck
Large Electrical Equipment (eg mixer)	Services equipment	Vibrating Plate (0.1hrs/m3)	50	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Fittings, furnishings and equipment	Install washing machine	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Fittings, furnishings and equipment	Making the Washer	0	Sea
Trade Staff (Small Electrical Equipment)	Fittings, furnishings and equipment	Install dishwasher	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Fittings, furnishings and equipment	Making the dishwasher	0	Sea
Trade Staff (Small Electrical Equipment)	Fittings, furnishings and equipment	Install washing machine	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Fittings, furnishings and equipment	Making the Washer	0	Sea

Equipment Name	Category	Description	Distance	Mode
Offsite Manufacturing / Prefabrication Process	External walls	Offsite manufacturing of ballustrade	0	Sea
Trade Staff (Small Electrical Equipment)	External walls	Install Ballustrade	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber fit shower base	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber to fit shower tap combination set	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Sanitary installations	Fit shower enclosure	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber Lay PVC waste water pipework	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber lay copper pipe water supply	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber fit WC	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber Lay PVC waste water pipework	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber lay copper pipe water supply	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber fit tap set	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber fix wall basin	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber Lay PVC waste water pipework	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Sanitary installations	Plumber lay copper pipe water supply	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	install insulation	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Finishes to ceilings	Install plasterboard	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prepare wall and apply primer	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply 2nd coat	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply final coat	30	Trades Vehicle (No Cost)
Remote Trade Staff (Small Electrical Equipment)	Floors	Install timber floor (0.5hrs for 200mm)	300	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	Installation of Door (3 hinges)	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	Fixing of door frame (metal)	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	Painter undercoat	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	Painter primer	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	Painter Top Coat	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	Painter, prepare wall for primer	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	Painter, prepare wall for undercoat	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	Painter prepare wall for top coat	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	Installation of Door	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prepare wall and apply primer	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply 2nd coat	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply final coat	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Services equipment	Electrician	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	Install Windows	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Services equipment	Install sprinkler	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Services equipment	Manufacture sprinkler	0	Sea
Trade Staff (Small Electrical Equipment)	Services equipment	test sprinkler monthly	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Services equipment	Inspection annual regulatory sign-off	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Tiler	30	Trades Vehicle (No Cost)
Concrete Pump	Substructure	Pour Concrete	50	Rigid truck
Trade Staff (Small Electrical Equipment)	Substructure	Concretor pour concrete	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Substructure	Install reinforcement	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External works	Drive digger	30	Trades Vehicle (No Cost)
Trench Digger / Dingo	External works	Digger	50	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Install cornices and skirting	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Cornices & Shadowlines	Install skirting	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prepare wall and apply primer	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply 2nd coat	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply final coat	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	install insulation	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal walls and partitions	Carpenter Install 2.4m Studs (100x38)	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal walls and partitions	carpenter install noggins 1 m (100x38mm)	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal walls and partitions	Carpenter install plates	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Wall finishes	Install plasterboards	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prepare wall and apply primer	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply 2nd coat	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Internal finishes	Painter, prep and apply final coat	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Fittings, furnishings and equipment	assembly	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Fittings, furnishings and equipment	hardware, plastic misc	0	Sea
Offsite Manufacturing / Prefabrication Process	Fittings, furnishings and equipment	Roof top Manufacturing	0	Sea
Trade Staff (Small Electrical Equipment)	Fittings, furnishings and equipment	Installation	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Roof	Offsite manufacture	0	Sea
Trade Staff (Small Electrical Equipment)	Roof	Install truss	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Roof	Install gutter (0.34hrs/m)	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Roof	install Roofing	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Roof	Glue foil to glasswool insulation	0	Sea
Trade Staff (No Equipment, labour transport only)	Roof	Installation in roof	30	Trades Vehicle (No Cost)
Offsite Manufacturing / Prefabrication Process	Lowest floor construction	Factory Assembly	0	Sea
Trade Staff (Small Electrical Equipment)	Lowest floor construction	Install Framing	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Lowest floor construction	Install Bearers	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	Lowest floor construction	Install Subfloor	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	Install wall	30	Trades Vehicle (No Cost)

Equipment Name	Category	Description	Distance	Mode
Crane	Frame	Crane, lift panels into place	50	Rigid truck
Trade Staff (Small Electrical Equipment)	External walls	Install Windows	30	Trades Vehicle (No Cost)
Trade Staff (Small Electrical Equipment)	External walls	Install flyscreens	30	Trades Vehicle (No Cost)

Material Transport

Material Name	Category	Template Name	Description	Transport Purpose	Distance	Mode
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	590	Rigid truck, Articulated Truck, Rail
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Ferrous Metals Iron Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Brass	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Rubber Synthetic	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics Polypropylene Injection Moulding	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics ABS Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	120	Rigid truck, Articulated Truck
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	120	Rigid truck, Articulated Truck
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics Polyurethane Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics General Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	120	Rigid truck, Articulated Truck
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	120	Rigid truck, Articulated Truck
Fibreglass Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Glass Flat Glass	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	EndOfLifeDisposalTransport	590	Rigid truck, Articulated Truck, Rail
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Gases Refrigerants R-134a (HFC-134a)	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerant R134	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	0	Rigid truck
					0	Rigid truck, Articulated

Material Name	Category	Template Name	Description	Transport Purpose	Distance	Mode
Ferrous Metals Steel Coated Sheet Zinc Coated & Coloured Sheet 0.43mm	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Air conditioning External Unit	NewProductTransport	590	Truck, Rail
				EndOfLifeDisposalTransport	0	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Metals (Non-Ferrous) Copper Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning External Unit	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Ferrous Metals Steel General Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning External Unit	NewProductTransport	590	Rigid truck, Articulated Truck, Rail
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Plastics General Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning External Unit	NewProductTransport	120	Rigid truck, Articulated Truck
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	120	Rigid truck, Articulated Truck
Rubber Synthetic	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning External Unit	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Ferrous Metals Steel General Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning External Unit	NewProductTransport	590	Rigid truck, Articulated Truck, Rail
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Plastics General Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning Internal Unit	NewProductTransport	120	Rigid truck, Articulated Truck
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	120	Rigid truck, Articulated Truck
Metals (Non-Ferrous) Copper Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning Internal Unit	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Rubber Synthetic	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning Internal Unit and Hoses	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Insulation Rigid Foams and Boards Polyethylene Polyethylene	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Pipe Insulation	NewProductTransport	120	Rigid truck, Articulated Truck
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	120	Rigid truck, Articulated Truck
Metals (Non-Ferrous) Copper Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Pipes	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Gases Refrigerants R-410A (Puron, AZ-20)	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Refrigerant	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	0	Rigid truck
				EndOfLifeClosedLoopTransport	0	Rigid truck
Ferrous Metals Steel General Unspecified	Sanitary installations	HWS - Electric Instantaneous	Housing etc	NewProductTransport	590	Rigid truck, Articulated Truck, Rail
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Metals (Non-Ferrous) Copper Unspecified	Sanitary installations	HWS - Electric Instantaneous	Electric Heating Element etc	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Metals (Non-Ferrous) Copper Unspecified	Sanitary installations	HWS - Electric Instantaneous	Associated Plumbing for HWS	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Insulation Rigid Foams and Boards Polyurethane Polyurethane	Sanitary installations	HWS - Electric Instantaneous	Insulation	NewProductTransport	120	Rigid truck, Articulated Truck
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	120	Rigid truck, Articulated Truck
Glass Flat Glass	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Ceramic glass cooktop	NewProductTransport	590	Rigid truck, Articulated Truck, Rail
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
						Rigid truck, Articulated

Material Name	Category	Template Name	Description	Transport Purpose	Distance	Mode
Ferrous Metals Steel Stainless Unspecified	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker casing	NewProductTransport	590	Truck, Rail
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Paints and Finishes Unspecified 1 Coat	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Insulation Blankets and Batts Mineral Wool Blanket R 1.5	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	NewProductTransport	120	Rigid truck, Articulated Truck
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	120	Rigid truck, Articulated Truck
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Zinc	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plant Based Products (non Timber) Paper General	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	0	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Finished Products Electrical Goods Light Fittings Fluorescent Globes Compact	General fittings, furnishings and equipment	Lighting Residential CFL Med Natural Light	Light Globes For Internal Fittings	NewProductTransport	15090	Rigid truck, Articulated Truck, Sea
				EndOfLifeDisposalTransport	0	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Ferrous Metals Steel Coated Sheet Zinc Coated & Coloured Sheet 0.43mm	General fittings, furnishings and equipment	Lighting Residential CFL Med Natural Light	Light fitting	NewProductTransport	590	Rigid truck, Articulated Truck, Rail
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Glass Flat Glass	General fittings, furnishings and equipment	Lighting Residential CFL Med Natural Light	Light Fittings	NewProductTransport	590	Rigid truck, Articulated Truck, Rail
				EndOfLifeDisposalTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Clothes washer	EndOfLifeDisposalTransport	590	Rigid truck, Articulated Truck, Rail
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Ferrous Metals Iron Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Clothes washer	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Aluminium	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Rubber Synthetic	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	0	Rigid truck
					0	Rigid truck
Plastics Polypropylene Injection Moulding	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
					0	Rigid truck

Material Name	Category	Template Name	Description	Transport Purpose	Distance	Mode
Plastics Polyvinyl Chloride (PVC) Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics General Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	EndOfLifeDisposalTransport	120	Rigid truck, Articulated Truck
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	0	Rigid truck
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	590	Rigid truck, Articulated Truck, Rail
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Metals (Non-Ferous) Zinc	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics High Density Polyethylene (HDPE) Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics Polypropylene Injection Moulding	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics ABS Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	120	Rigid truck, Articulated Truck
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	120	Rigid truck, Articulated Truck
Ferrous Metals Steel Stainless Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	590	Rigid truck, Articulated Truck, Rail
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics General Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	120	Rigid truck, Articulated Truck
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	120	Rigid truck, Articulated Truck
Asphalt and Bitumen Asphalt Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	90	Rigid truck, Articulated Truck
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	90	Rigid truck, Articulated Truck
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea
Plastics Polypropylene Injection Moulding	External Drainage	150mm Internal Diameter Poly sewer pipe	Polypropelene pipe 150mm ID	NewProductTransport EndOfLifeDisposalTransport	15090 50	Sea, Articulated Truck, Rigid truck Rigid truck
Ferrous Metals Steel General Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Clothes washer	EndOfLifeDisposalTransport	590	Rigid truck, Articulated Truck, Rail
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	590	Rigid truck, Articulated Truck, Rail
Ferrous Metals Iron Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Clothes washer	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated Truck, Sea
				NewProductTransport	50	Rigid truck
				EndOfLifeClosedLoopTransport	15090	Rigid truck, Articulated Truck, Sea

Material Name	Category	Template Name	Description	Transport Purpose	Distance	Mode	
Metals (Non-Ferous) Aluminium Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Aluminium	EndOfLifeDisposalTransport	15090	Truck, Sea	
				NewProductTransport		50	Rigid truck, Articulated
				EndOfLifeClosedLoopTransport		15090	Rigid truck, Articulated
Metals (Non-Ferous) Copper Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Sea
				EndOfLifeClosedLoopTransport		15090	Rigid truck, Articulated
Rubber Synthetic	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Sea
				EndOfLifeClosedLoopTransport		15090	Rigid truck, Articulated
Plastics Polypropylene Injection Moulding	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Sea
				EndOfLifeClosedLoopTransport		15090	Rigid truck, Articulated
Plastics Polyvinyl Chloride (PVC) Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Sea
				EndOfLifeClosedLoopTransport		15090	Rigid truck, Articulated
Plastics General Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	EndOfLifeDisposalTransport	120	Rigid truck, Articulated	
				NewProductTransport		50	Truck
				EndOfLifeClosedLoopTransport		120	Rigid truck, Articulated
Generic Cost Adjustment Factors Cost Only Factors (No Environmental Impacts Adjustment)	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	cost adjustment for extended warranty	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	0 0 0	Sea Rigid truck Sea	
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport	590	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Rail
				EndOfLifeClosedLoopTransport		590	Rigid truck, Articulated
Metals (Non-Ferous) Zinc	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Sea
				EndOfLifeClosedLoopTransport		15090	Rigid truck, Articulated
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Sea
				EndOfLifeClosedLoopTransport		15090	Rigid truck, Articulated
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Sea
				EndOfLifeClosedLoopTransport		15090	Rigid truck, Articulated
Plastics High Density Polyethylene (HDPE) Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Sea
				EndOfLifeClosedLoopTransport		15090	Rigid truck, Articulated
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Sea
				EndOfLifeClosedLoopTransport		15090	Rigid truck, Articulated
Plastics Polypropylene Injection Moulding	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Sea
				EndOfLifeClosedLoopTransport		15090	Rigid truck, Articulated
Plastics ABS Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport	120	Rigid truck, Articulated	
				NewProductTransport		50	Truck
				EndOfLifeClosedLoopTransport		120	Rigid truck, Articulated
Ferrous Metals Steel Stainless Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport	590	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Rail
				EndOfLifeClosedLoopTransport		590	Rigid truck, Articulated
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport	15090	Rigid truck, Articulated	
				NewProductTransport		50	Truck, Sea
				EndOfLifeClosedLoopTransport		15090	Rigid truck, Articulated

Material Name	Category	Template Name	Description	Transport Purpose	Distance	Mode
Plastics General Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	120 50 120	Rigid truck, Articulated Truck Rigid truck Rigid truck, Articulated Truck
Asphalt and Bitumen Asphalt Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	90 50 90	Rigid truck, Articulated Truck Rigid truck Rigid truck, Articulated Truck
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Generic Cost Adjustment Factors Cost Only Factors (No Environmental Impacts Adjustment)	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Cost adjustment for extended warranty	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	0 0 0	Sea Rigid truck Sea
Ferrous Metals Steel General Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Clothes washer	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Ferrous Metals Iron Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Clothes washer	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Aluminium Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Aluminium	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Copper Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Rubber Synthetic	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Plastics Polypropylene Injection Moulding	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext Warranty)	Washing Machine	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Plastics Polyvinyl Chloride (PVC) Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Plastics General Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	120 50 120	Rigid truck, Articulated Truck Rigid truck Rigid truck, Articulated Truck
Generic Cost Adjustment Factors Cost Only Factors (No Environmental Impacts Adjustment)	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	cost adjustment for extended warranty	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	0 0 0	Sea Rigid truck Sea
Ferrous Metals Steel Stainless Unspecified	External enclosing walls above ground level	Balustrade, Steel End Posts and Steel Rails	Brackets and bolts	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Ferrous Metals Steel General Unspecified	External enclosing walls above ground level	Balustrade, Steel End Posts and Steel Rails	Hand, End and Middle Rails	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Ceramics Porcelain Sanitary Products General	Fittings, furnishings and equipment	Shower unit	900mm x900mm Ceramic Shower base	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	Shower unit	Showerhead	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
	Fittings,			NewProductTransport	590	Rigid truck, Articulated Truck, Rail

Material Name	Category	Template Name	Description	Transport Purpose	Distance	Mode
Glass Flat Glass	furnishings and equipment	Shower unit	Shower screens (2x sides)	EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	50 590	Rigid truck Rigid truck, Articulated Truck, Rail
Metals (Non-Ferous) Copper Unspecified	Sanitary installations	Bathroom services pipework	Copper pipes	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Plastics Polyvinyl Chloride (PVC) PVC Pipe	Sanitary installations	Bathroom services pipework	Drain pipes	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Ceramics Porcelain Sanitary Products Toilet	Fittings, furnishings and equipment	WC	Toilet	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Truck, Sea Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Copper Unspecified	Sanitary installations	Bathroom services pipework	Copper pipes	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Plastics Polyvinyl Chloride (PVC) PVC Pipe	Sanitary installations	Bathroom services pipework	Drain pipes	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Ceramics Porcelain Sanitary Products Bathroom Sink	Fittings, furnishings and equipment	Wall Basin/sink (ceramic)	Ceramic Wall Basin	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Truck, Sea Rigid truck, Articulated Truck, Sea
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	Wall Basin/sink (ceramic)	Taps (0.5kg each)	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Truck, Rail Rigid truck, Articulated Truck, Rail
Metals (Non-Ferous) Copper Unspecified	Sanitary installations	Bathroom services pipework	Copper pipes	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Truck, Sea Rigid truck, Articulated Truck, Sea
Plastics Polyvinyl Chloride (PVC) PVC Pipe	Sanitary installations	Bathroom services pipework	Drain pipes	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Insulation Blankets and Batts Glass Fibre Batts R 2.0	Insulation	Bulk Insulation - 90mm Fibreglass (R2.0)	R2.0 fibre glass batts 90mm	NewProductTransport EndOfLifeDisposalTransport	120 50 0	Rigid truck, Articulated Truck Truck Rigid truck
Plaster and Mineral Derived Products 100% Primary Gypsum Plaster Unspecified	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	Plaster-based cement for back-blocking	NewProductTransport EndOfLifeDisposalTransport	120 0 0	Rigid truck, Articulated Truck Truck Rigid truck
Plaster and Mineral Derived Products 100% Primary Gypsum Plasterboard 12mm Sheets	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	12mm back-blocking plasterboard	NewProductTransport EndOfLifeDisposalTransport	120 50 0	Rigid truck, Articulated Truck Truck Rigid truck
Resins and Adhesives Epoxy Resin	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	acrylic adhesive	NewProductTransport EndOfLifeDisposalTransport	15090 0 0	Rigid truck, Articulated Truck, Sea Truck, Sea Rigid truck
Plaster and Mineral Derived Products 100% Primary Gypsum Plasterboard 12mm Sheets	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	12mm plasterboard	NewProductTransport EndOfLifeDisposalTransport	120 50 0	Rigid truck, Articulated Truck Truck Rigid truck
Ferrous Metals Steel General Unspecified	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	Screws	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Truck, Rail Rigid truck, Articulated Truck, Rail
Timber Softwood Unspecified	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	Timber ceiling battens	NewProductTransport EndOfLifeDisposalTransport	415 50 0	Rigid truck, Articulated Truck Truck Rigid truck
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Top Coat	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Truck, Sea Rigid truck
Ferrous Metals Steel General Unspecified	Paint - Walls	Internal Finish - Paint (standard)	Consumables (paint tins, rollers etc)	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Truck, Rail Rigid truck, Articulated Truck, Rail
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Primer	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Truck, Sea Rigid truck

Material Name	Category	Template Name	Description	Transport Purpose	Distance	Mode
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Undercoat	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck
Timber Cross Laminated Timber Unspecified	Floors	CLT Timber Floor cubic meters (m3)(Superstructure)	CLT floor	NewProductTransport EndOfLifeDisposalTransport	90 50 0	Rigid truck, Articulated Truck Rigid truck
Timber General Unspecified	External doors	Door - SolidCoreTimber/SteelJam/Painted (#)	Solidcore door	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	415 50 415	Rigid truck, Articulated Truck Rigid truck, Articulated Truck
Ferrous Metals Steel General Unspecified	External doors	Door - SolidCoreTimber/SteelJam/Painted (#)	Door Jam	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	Door SolidCoreTimber/SteelJam/Painted (#)	Door Hardware (Handles, Hinges, Locks)	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Paints and Finishes Unspecified 1 Coat	External Paint, Textures and Renders	External Finish - Paint (SuperStructure)	Top Coat	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Paints and Finishes Unspecified 1 Coat	External Paint, Textures and Renders	External Finish - Paint (SuperStructure)	Primer	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Paints and Finishes Unspecified 1 Coat	External Paint, Textures and Renders	External Finish - Paint (SuperStructure)	Undercoat	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Ferrous Metals Steel General Unspecified	External Paint, Textures and Renders	External Finish - Paint (Superstructure)	Consumables (Paint tins, rollers, etc)	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Timber General Unspecified	External doors	Double Door, Hollow Core, Steel Jam	Door	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	415 50 415	Rigid truck, Articulated Truck Rigid truck Rigid truck, Articulated Truck
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	Double Door, Hollow Core, Steel Jam	Door Hardware (Handles, Hinges, Locks)	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Ferrous Metals Steel General Unspecified	External doors	Double Door, Hollow Core, Steel Jam	Steel Door Jam	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Top Coat	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck
Ferrous Metals Steel General Unspecified	Paint - Walls	Internal Finish - Paint (standard)	Consumables (paint tins, rollers, etc)	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Primer	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Undercoat	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck
Metals (Non-Ferrous) Copper Unspecified	Electrical installations	Electrical Fittings - sockets, power points, wiring, embodied only (m2)	Copper electrical wire	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Plastics General Unspecified	Electrical installations	Electrical Fittings - sockets, power points, wiring, embodied only (m2)	Plastic associated with electrical wire and fittings	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	120 50 120	Rigid truck, Articulated Truck Rigid truck Rigid truck, Articulated Truck
Ferrous Metals Steel General Unspecified	General fittings, furnishings and equipment	Electrical Fittings - sockets, power points, wiring, embodied only (m2)	Light Fittings	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail

Material Name	Category	Template Name	Description	Transport Purpose	Distance	Mode
Plastics General Unspecified	General fittings, furnishings and equipment	Electrical Fittings - sockets, power points, wiring embodied only (m2)	Light Fittings	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	120 50 120	Rigid truck, Articulated Truck Rigid truck Rigid truck, Articulated Truck
Ferrous Metals Steel Stainless Unspecified	External doors	External Glass Sliding Door - commercial+hardware	Steel sliders and hardware	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	External Glass Sliding Door - commercial+hardware	Door Hardware (Handles, Hinges, Locks)	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Metals (Non-Ferous) Aluminium Unspecified	External windows	Windows single glazed aluminium frame individual components	aluminium frame	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Rubber Synthetic	External windows	Windows single glazed aluminium frame individual components	thermal break	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Glass Flat Glass	External windows	Windows single glazed aluminium frame individual components	window pane	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Glass Flat Glass	Fire and lightning protection	Fire Services Fire sprinkler	Glass bulb	NewProductTransport EndOfLifeDisposalTransport	590 50 0	Rigid truck, Articulated Truck, Rail Rigid truck
Metals (Non-Ferous) Brass	Fire and lightning protection	Fire Services Fire sprinkler	Deflector, cap etc	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Ceramics Tiles Ceramic Tiles	Wet Area Floors	Floor Covering - Tiles (ceramic/5mm)	Floor tiles	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Cements and Limes Portland Cement Unspecified	Wet Area Floors	Floor Covering - Tiles (ceramic/5mm)	Tile grout	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	120 50 120	Rigid truck, Articulated Truck Rigid truck Rigid truck, Articulated Truck
Resins and Adhesives Urea Formaldehyde	Wet Area Floors	Floor Covering - Tiles (ceramic/5mm)	Sealant	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Plastics High Density Polyethylene (HDPE) Unspecified	Standard foundations	Footing - Strip 400 x 300 Concrete 40Mpa 3% reo by volume	Impermeable Lining	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Concrete Unreinforced Portland Cement Blends 40 MPa	Standard foundations	Poured Concrete - Foundations, 40MPa	Pour Concrete Foundations	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	50 50 50	Rigid truck Rigid truck Rigid truck
Ferrous Metals Steel General Unspecified	Standard foundations	Reinforcement Bar Foundations kg	Reinforcement Bar Foundations	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 0 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Plaster and Mineral Derived Products 100% Primary Gypsum Plaster Unspecified	Cornices & Shadowlines	Wall Finish - Plaster Cornices (m)	Cornices 25mm x 200mm	NewProductTransport EndOfLifeDisposalTransport	120 50 0	Rigid truck, Articulated Truck Truck Rigid truck
Timber Medium Density Fibreboard (MDF) Unspecified	Cornices & Shadowlines	Wall Finish - MDF Skirtings (m)	Skirting Boards MDF 25mm x 150mm	NewProductTransport EndOfLifeDisposalTransport	590 50 0	Rigid truck, Articulated Truck, Rail Truck, Rail Rigid truck
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Top Coat	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck
Ferrous Metals Steel General Unspecified	Paint - Walls	Internal Finish - Paint (standard)	Consumables (paint tins, rollers etc)	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Primer	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Truck, Sea Rigid truck

Material Name	Category	Template Name	Description	Transport Purpose	Distance	Mode
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Undercoat	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck
Insulation Blankets and Batts Glass Fibre Batts R 1.5	Insulation	Bulk Insulation - 75mm Fibreglass (R1.5)	R1.5 fibreglass batts 75mm	NewProductTransport EndOfLifeDisposalTransport	120 50 0	Rigid truck, Articulated Truck Rigid truck
Timber Softwood Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	100x50mm Studs 600mm centres	NewProductTransport EndOfLifeDisposalTransport	415 50 0	Rigid truck, Articulated Truck Rigid truck
Timber Softwood Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	600mm Nogs (100x50)	NewProductTransport EndOfLifeDisposalTransport	415 0 0	Rigid truck, Articulated Truck Rigid truck
Timber Softwood Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Bottom plate (100x50mm)	NewProductTransport EndOfLifeDisposalTransport	415 50 0	Rigid truck, Articulated Truck Rigid truck
Timber Softwood Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Top Plate (100x50mm)	NewProductTransport EndOfLifeDisposalTransport	415 0 0	Rigid truck, Articulated Truck Rigid truck
Ferrous Metals Steel General Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Fastners/nails	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck, Articulated Truck, Rail
Ferrous Metals Steel General Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Diagonal bracing straps	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 0 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Plastics High Density Polyethylene (HDPE) Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Waterproof membrane	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Truck Rigid truck, Articulated Truck, Sea
Ferrous Metals Steel General Unspecified	Wall finishes	Wall Lining - 12mm Plasterboard, paint	Fasteners and/or nails	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Plaster and Mineral Derived Products 100% Primary Gypsum Plasterboard 12mm Sheets	Wall finishes	Wall Lining - Plasterboard (12mm)	Plasterboard 12mm	NewProductTransport EndOfLifeDisposalTransport	120 0 0	Rigid truck, Articulated Truck Rigid truck
Ferrous Metals Steel General Unspecified	Wall finishes	Wall Lining - Plasterboard (12mm)	Fasteners and Nails	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Top Coat	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck
Ferrous Metals Steel General Unspecified	Paint - Walls	Internal Finish - Paint (standard)	Consumables (paint tins, rollers etc)	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Primer	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Undercoat	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	hinges, runners, handles and other hardware like brackets etc	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	PVC feet	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Timber Particle Board Indoor	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	Cabinets	NewProductTransport EndOfLifeDisposalTransport	590 50 0	Rigid truck, Articulated Truck, Rail Rigid truck
Timber Medium Density Fibreboard (MDF) Unspecified	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	kickboard	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	kickboard covering	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea

Material Name	Category	Template Name	Description	Transport Purpose	Distance	Mode
Resins and Adhesives Melamine Resin	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	Cabinet Coverings	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck
Rock and Stone Polished Granite / Basalt / Marble	Domestic kitchen fittings and equipment	Engineered Stone Benchtop	Stone Benchtop	EndOfLifeDisposalTransport NewProductTransport	90 50 0	Rigid truck, Articulated Truck Rigid truck
Glass Flat Glass	Domestic kitchen fittings and equipment	Engineered Stone Benchtop	Glass Content of Benchtop	NewProductTransport EndOfLifeDisposalTransport	590 50 0	Rigid truck, Articulated Truck, Rail Rigid truck
Resins and Adhesives Epoxy Resin	Domestic kitchen fittings and equipment	Engineered Stone Benchtop	Benchtop Bonding Agent	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck
Timber Hardwood Unspecified	Roof structure	Structure - Timber Truss 10m (0.24x0.025x10)	Top chord of trussx2 (0.24x0.025x10)	NewProductTransport EndOfLifeDisposalTransport	415 50 0	Rigid truck, Articulated Truck Rigid truck
Timber Hardwood Unspecified	Frame	Structure - Timber Truss 10m (0.24x0.025x10)	Bottom chord of trussx2 (0.24x0.025x10)	NewProductTransport EndOfLifeDisposalTransport	415 50 0	Rigid truck, Articulated Truck Rigid truck
Timber Hardwood Unspecified	Frame	Structure - Timber Truss 10m (0.24x0.025x10)	Truss Stiffener Platesx8 (0.24x0.25x1.25)	NewProductTransport EndOfLifeDisposalTransport	415 50 0	Rigid truck, Articulated Truck Rigid truck
Timber Hardwood Unspecified	Frame	Structure - Timber Truss 10m (0.24x0.025x10)	Truss Uprightsx18 (0.24x0.025x0.5)	NewProductTransport EndOfLifeDisposalTransport	415 50 0	Rigid truck, Articulated Truck Rigid truck
Plastics Polyvinyl Chloride (PVC) PVC Pipe	Roof drainage	Gutter - PVC	1m of 3mm thick semi circular gutter (112mm)	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Ferrous Metals Steel Galvanised Structural Unspecified	Roof drainage	Gutter - PVC	Screws, bolts & fixings	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Ferrous Metals Steel Coated Sheet Zinc Coated & Coloured Sheet 0.43mm	Roof coverings	Covering - Steel Sheeting 0.42mm corrugated	0.48mm corrugated/Custom Orb sheet	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Ferrous Metals Steel Stainless Unspecified	Roof coverings	Covering - Steel Sheeting 0.42mm corrugated	Fastenings	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Insulation Blankets and Batts Glass Fibre Batts Unspecified	Insulation	Insulation - Roofing Blanket (foil-lined)	R1.3 glasswool blanket	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	120 50 120	Rigid truck, Articulated Truck Rigid truck Rigid truck, Articulated Truck
Metals (Non-Ferous) Aluminium Unspecified	Insulation	Insulation - Roofing Blanket (foil-lined)	Foil lining	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Resins and Adhesives Melamine Resin	Insulation	Insulation - Roofing Blanket (foil-lined)	Foil glue	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Timber Plywood Unspecified	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Engineered I Beam Web	EndOfLifeDisposalTransport NewProductTransport	590 50 0	Rigid truck, Articulated Truck, Rail Rigid truck
Resins and Adhesives Urea Formaldehyde	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Engineered I Beam Glue	EndOfLifeDisposalTransport NewProductTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck
Timber Glue Laminated Unspecified	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Bearers / End Caps	EndOfLifeDisposalTransport NewProductTransport	590 50 0	Rigid truck, Articulated Truck, Rail Rigid truck
Ferrous Metals Steel General Unspecified	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Hangers, Bolts, brackets and nails	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Resins and Adhesives Urea Formaldehyde	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Liquid Nails type Adhesive	EndOfLifeDisposalTransport NewProductTransport	15090 0 0	Rigid truck, Articulated Truck, Sea Rigid truck
Timber Softwood Unspecified	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Engineered I Beam Flanges	NewProductTransport EndOfLifeDisposalTransport	415 50 0	Rigid truck, Articulated Truck Rigid truck
Plastics Polyurethane Unspecified	Lowest floor construction	Floor Covering - 19mm particle/chipboard flooring (Substructure)	Glue	NewProductTransport EndOfLifeDisposalTransport	15090 50 0	Rigid truck, Articulated Truck, Sea Rigid truck
						Rigid truck, Articulated

Material Name	Category	Template Name	Description	Transport Purpose	Distance	Mode
Ferrous Metals Steel General Unspecified	Lowest floor construction	Floor Covering - 19mm particle/chipboard flooring (Substructure)	Hangers, Bolts, brackets and nails	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	590 0 590	Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Timber Medium Density Fibreboard (MDF) Unspecified	Lowest floor construction	Floor Covering - 19mm particle/chipboard flooring (Substructure)	19mm Particleboard	NewProductTransport EndOfLifeDisposalTransport	590 50 0	Rigid truck, Articulated Truck, Rail Rigid truck
Plastics High Density Polyethylene (HDPE) Unspecified	External enclosing walls above ground level	Wall, 150mm CLT, Unfinished, m2	Waterproof membrane	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Timber Cross Laminated Timber Unspecified	External enclosing walls above ground level	Wall, 150mm CLT, Unfinished, m2	CLT Structure	NewProductTransport EndOfLifeDisposalTransport	100 50 0	Rigid truck Rigid truck
Ferrous Metals Steel General Unspecified	External enclosing walls above ground level	Wall, 150mm CLT, Unfinished, m2	Fasteners / nails	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	590 50 590	Rigid truck, Articulated Truck, Rail Rigid truck Rigid truck, Articulated Truck, Rail
Windows Aluminium Framed No Thermal Break Double Glaze Domestic 50% Opening	External windows	Windows, Residential Aluminium Double Glaze, fly screen	Windows / Sliding Doors	NewProductTransport EndOfLifeDisposalTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Metals (Non-Ferous) Aluminium Unspecified	Security and Fly Screens	Fly Screen	Fly screen frame	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 50 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea
Plastics General Unspecified	Security and Fly Screens	Fly Screen	Flyscreen Mesh	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	120 0 120	Rigid truck, Articulated Truck Truck Rigid truck, Articulated Truck
Rubber Synthetic	Security and Fly Screens	Fly Screen	Flyscreen rubber spline	EndOfLifeDisposalTransport NewProductTransport EndOfLifeClosedLoopTransport	15090 0 15090	Rigid truck, Articulated Truck, Sea Rigid truck Rigid truck, Articulated Truck, Sea

Material Disposal

Material Name	Category	Template Name	Description	Disposal Rate	Disposal Method
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	20%	Steel products Landfill
Ferrous Metals Iron Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	28.25%	Steel products Landfill
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	42.67%	Aluminium Landfill
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	52%	Copper Landfill
Metals (Non-Ferous) Brass	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	52%	Non-ferrous metals Landfill
Rubber Synthetic	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	100%	Plastics Landfill
Plastics Polypropylene Injection Moulding	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	100%	Plastics Landfill
Plastics ABS Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	80%	Plastics Landfill
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	100%	Plastics Landfill
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	80%	Plastics Landfill
Plastics Polyurethane Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	100%	Plastics Landfill
Plastics General Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	100%	Plastics Landfill
Fibreglass Unspecified	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	100%	Plastics Landfill
Glass Flat Glass	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerator unit	100%	Glass Land Fill
Gases Refrigerants R-134a (HFC-134a)	Domestic kitchen fittings and equipment	Refrigeration, Residential Detailed (AUS) Em	Refrigerant R134	100%	Refrigerant Gas R-134a (HFC-134a) Loss
Ferrous Metals Steel Coated Sheet Zinc Coated & Coloured Sheet 0.43mm	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning External Unit	20%	No Disposal Process
Metals (Non-Ferous) Copper Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning External Unit	52%	Copper Landfill
Ferrous Metals Steel General Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning External Unit	20%	Steel products Landfill

Material Name	Category	Template Name	Description	Disposal Rate	Disposal Method
Plastics General Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning External Unit	100%	Plastics Landfill
Rubber Synthetic	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning External Unit	100%	Plastics Landfill
Ferrous Metals Steel General Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning External Unit	20%	Steel products Landfill
Plastics General Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning Internal Unit	100%	Plastics Landfill
Metals (Non-Ferous) Copper Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning Internal Unit	52%	Copper Landfill
Rubber Synthetic	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Airconditioning Internal Unit and Hoses	100%	Plastics Landfill
Insulation Rigid Foams and Boards Polyethylene Polyethylene	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Pipe Insulation	100%	Plastics Landfill
Metals (Non-Ferous) Copper Unspecified	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Pipes	52%	Copper Landfill
Gases Refrigerants R-410A (Puron, AZ-20)	Space heating and air conditioning	HVAC Air Source Heat Pump Embodied (multi-split)	Refrigerant	100%	Refrigerant Gas R-410A (Puron, AZ-20) Loss
Ferrous Metals Steel General Unspecified	Sanitary installations	HWS - Electric Instantaneous	Housing etc	20%	Steel products Landfill
Metals (Non-Ferous) Copper Unspecified	Sanitary installations	HWS - Electric Instantaneous	Electric Heating Element etc	52%	Copper Landfill
Metals (Non-Ferous) Copper Unspecified	Sanitary installations	HWS - Electric Instantaneous	Associated Plumbing for HWS	52%	Copper Landfill
Insulation Rigid Foams and Boards Polyurethane Polyurethane	Sanitary installations	HWS - Electric Instantaneous	Insulation	100%	Plastics Landfill
Glass Flat Glass	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Ceramic glass cooktop	100%	Glass Land Fill
Ferrous Metals Steel Stainless Unspecified	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker casing	20%	Steel products Landfill
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	42.67%	Aluminium Landfill
Paints and Finishes Unspecified 1 Coat	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	100%	Plastics Landfill
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	52%	Copper Landfill
Insulation Blankets and Batts Mineral Wool Blanket R 1.5	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	100%	Inert Waste Landfill
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	80%	Plastics Landfill
Metals (Non-Ferous) Zinc	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	58.5%	Non-ferrous metals Landfill
Plastics Polystyrene Expanded, Polystyrene	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	100%	Plastics Landfill
Plant Based Products (non Timber) Paper General	Domestic kitchen fittings and equipment	Cooking Res, stove and oven Em	Cooker	100%	No Disposal Process
Finished Products Electrical Goods Light Fittings Flourescent Globes Compact	General fittings, furnishings and equipment	Lighting Residential CFL Med Natural Light	Light Globes For Internal Fittings	100%	No Disposal Process
Ferrous Metals Steel Coated Sheet Zinc Coated & Coloured Sheet 0.43mm	General fittings, furnishings and equipment	Lighting Residential CFL Med Natural Light	Light fitting	20%	Garden waste Landfill
Glass Flat Glass	General fittings, furnishings and equipment	Lighting Residential CFL Med Natural Light	Light Fittings	100%	Glass Land Fill
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Clothes washer	20%	Steel products Landfill
Ferrous Metals Iron Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Clothes washer	28.25%	Steel products Landfill
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Aluminium	42.67%	Aluminium Landfill
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	52%	Copper Landfill
Rubber Synthetic	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	100%	No Disposal Process
Plastics Polypropylene Injection Moulding	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	100%	Plastics Landfill
Plastics Polyvinyl Chloride (PVC) Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	80%	Plastics Landfill
Plastics General Unspecified	Domestic kitchen fittings and equipment	Clothes washer Em	Washing Machine	100%	Plastics Landfill
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	20%	Steel products Landfill
Metals (Non-Ferous) Zinc	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	100%	Non-ferrous metals Landfill
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	42.67%	Aluminium Landfill
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	52%	Copper Landfill
Plastics High Density Polyethylene (HDPE) Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	80%	Plastics Landfill

Material Name	Category	Template Name	Description	Disposal Rate	Disposal Method
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	80%	Plastics Landfill
Plastics Polypropylene Injection Moulding	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	100%	Plastics Landfill
Plastics ABS Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	80%	Plastics Landfill
Ferrous Metals Steel Stainless Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	20%	Steel products Landfill
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	100%	Plastics Landfill
Plastics General Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	100%	Plastics Landfill
Asphalt and Bitumen Asphalt Unspecified	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	100%	Inert Waste Landfill
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	Dishwasher Em	Dishwasher	100%	Plastics Landfill
Plastics Polypropylene Injection Moulding	External drainage	150mm Internal Diameter Poly sewer pipe	Polypropelene pipe 150mm ID	100%	Plastics Landfill
Ferrous Metals Steel General Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Clothes washer	20%	Steel products Landfill
Ferrous Metals Iron Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Clothes washer	28.25%	Steel products Landfill
Metals (Non-Ferous) Aluminium Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Aluminium	42.67%	Aluminium Landfill
Metals (Non-Ferous) Copper Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	52%	Copper Landfill
Rubber Synthetic	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	100%	Plastics Landfill
Plastics Polypropylene Injection Moulding	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	100%	Plastics Landfill
Plastics Polyvinyl Chloride (PVC) Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	80%	Plastics Landfill
Plastics General Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	Washing Machine	100%	Plastics Landfill
Generic Cost Adjustment Factors Cost Only Factors (No Environmental Impacts Adjustment)	Fittings, furnishings and equipment	[ARCHIVED] Clothes washer Em (Ext warranty)	cost adjustment for extended warranty	100%	No Disposal Process
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	20%	Steel products Landfill
Metals (Non-Ferous) Zinc	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	100%	Non-ferrous metals Landfill
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	42.67%	Aluminium Landfill
Metals (Non-Ferous) Copper Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	52%	Copper Landfill
Plastics High Density Polyethylene (HDPE) Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	80%	Plastics Landfill
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	80%	Plastics Landfill
Plastics Polypropylene Injection Moulding	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	100%	Plastics Landfill
Plastics ABS Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	80%	Plastics Landfill
Ferrous Metals Steel Stainless Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	20%	Steel products Landfill
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	100%	Plastics Landfill
Plastics General Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	100%	Plastics Landfill
Asphalt and Bitumen Asphalt Unspecified	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	100%	Inert Waste Landfill
Plastics Polystyrene Expanded Polystyrene	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Dishwasher	100%	Plastics Landfill
Generic Cost Adjustment Factors Cost Only Factors (No Environmental Impacts Adjustment)	Domestic kitchen fittings and equipment	[ARCHIVED] Dishwasher Em (Ext Warranty)	Cost adjustment for extended warranty	100%	No Disposal Process
Ferrous Metals Steel General Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Clothes washer	20%	Steel products Landfill
Ferrous Metals Iron Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Clothes washer	28.25%	Steel products Landfill
Metals (Non-Ferous) Aluminium Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Aluminium	42.67%	Aluminium Landfill
Metals (Non-Ferous) Copper Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	52%	Copper Landfill
Rubber Synthetic	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	100%	Plastics Landfill
Plastics Polypropylene Injection Moulding	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	100%	Plastics Landfill
Plastics Polyvinyl Chloride (PVC) Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	80%	Plastics Landfill

Material Name	Category	Template Name	Description	Disposal Rate	Disposal Method
Plastics General Unspecified	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	Washing Machine	100%	Plastics Landfill
Generic Cost Adjustment Factors Cost Only Factors (No Environmental Impacts Adjustment)	Fittings, furnishings and equipment	[ARCHIVED] Clothes Dryer Em (Ext warranty)	cost adjustment for extended warranty	100%	No Disposal Process
Ferrous Metals Steel Stainless Unspecified	External enclosing walls above ground level	Balustrade, Steel End Posts and Steel Rails	Brackets and bolts	20%	Steel products Landfill
Ferrous Metals Steel General Unspecified	External enclosing walls above ground level	Balustrade, Steel End Posts and Steel Rails	Hand, End and Middle Rails	20%	Steel products Landfill
Ceramics Porcelain Sanitary Products General	Fittings, furnishings and equipment	Shower unit	900mm x900mm Ceramic Shower base	100%	Inert Waste Landfill
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	Shower unit	Showerhead	20%	Steel products Landfill
Glass Flat Glass	Fittings, furnishings and equipment	Shower unit	Shower screens (2x sides)	100%	Glass Land Fill
Metals (Non-Ferous) Copper Unspecified	Sanitary installations	Bathroom services pipework	Copper pipes	52%	Copper Landfill
Plastics Polyvinyl Chloride (PVC) PVC Pipe	Sanitary installations	Bathroom services pipework	Drain pipes	80%	Plastics Landfill
Ceramics Porcelain Sanitary Products Toilet	Fittings, furnishings and equipment	WC	Toilet	100%	Inert Waste Landfill
Metals (Non-Ferous) Copper Unspecified	Sanitary installations	Bathroom services pipework	Copper pipes	52%	Copper Landfill
Plastics Polyvinyl Chloride (PVC) PVC Pipe	Sanitary installations	Bathroom services pipework	Drain pipes	80%	Plastics Landfill
Ceramics Porcelain Sanitary Products Bathroom Sink	Fittings, furnishings and equipment	Wall Basin/sink (ceramic)	Ceramic Wall Basin	100%	Inert Waste Landfill
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	Wall Basin/sink (ceramic)	Taps (0.5kg each)	20%	Steel products Landfill
Metals (Non-Ferous) Copper Unspecified	Sanitary installations	Bathroom services pipework	Copper pipes	52%	Copper Landfill
Plastics Polyvinyl Chloride (PVC) PVC Pipe	Sanitary installations	Bathroom services pipework	Drain pipes	80%	Plastics Landfill
Insulation Blankets and Batts Glass Fibre Batts R 2.0	Insulation	Bulk Insulation - 90mm Fibreglass (R2.0)	R2.0 fibreglass batts 90mm	100%	Inert Waste Landfill
Plaster and Mineral Derived Products 100% Primary Gypsum Plaster Unspecified	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	Plaster-based cement for back-blocking	100%	No Disposal Process
Plaster and Mineral Derived Products 100% Primary Gypsum Plasterboard 12mm Sheets	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	12mm back-blocking plasterboard	100%	Inert Waste Landfill
Resins and Adhesives Epoxy Resin	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	acrylic adhesive	100%	No Disposal Process
Plaster and Mineral Derived Products 100% Primary Gypsum Plasterboard 12mm Sheets	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	12mm plasterboard	100%	Inert Waste Landfill
Ferrous Metals Steel General Unspecified	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	Screws	20%	Steel products Landfill
Timber Softwood Unspecified	Finishes to ceilings	Ceiling Lining - Plasterboard (12mm)	Timber ceiling battens	100%	Wood Landfill
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Top Coat	100%	Plastics Landfill
Ferrous Metals Steel General Unspecified	Paint - Walls	Internal Finish - Paint (standard)	Consumables (paint tins, rollers etc)	20%	Steel products Landfill
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Primer	100%	Plastics Landfill
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Undercoat	100%	Plastics Landfill
Timber Cross Laminated Timber Unspecified	Floors	CLT Timber Floor cubic meters (m3)(Superstructure)	CLT floor	100%	Wood Landfill
Timber General Unspecified	External doors	Door - SolidCoreTimber/SteelJam/Painted (#)	Solidcore Door	100%	Wood Landfill
Ferrous Metals Steel General Unspecified	External doors	Door - SolidCoreTimber/SteelJam/Painted (#)	Door Jam	20%	Steel products Landfill
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	Door - SolidCoreTimber/SteelJam/Painted (#)	Door Hardware (Handles, Hinges, Locks)	20%	Steel products Landfill
Paints and Finishes Unspecified 1 Coat	External Paint, Textures and Renders	External Finish - Paint (SuperStructure)	Top Coat	100%	Plastics Landfill
Paints and Finishes Unspecified 1 Coat	External Paint, Textures and Renders	External Finish - Paint (SuperStructure)	Primer	100%	Plastics Landfill
Paints and Finishes Unspecified 1 Coat	External Paint, Textures and Renders	External Finish - Paint (SuperStructure)	Undercoat	100%	Plastics Landfill
Ferrous Metals Steel General Unspecified	External Paint, Textures and Renders	External Finish - Paint (SuperStructure)	Consumables (Paint tins, rollers, etc)	20%	Steel products Landfill
Timber General Unspecified	External doors	Double Door, Hollow Core, Steel Jam	Door	100%	Wood Landfill
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	Double Door, Hollow Core, Steel Jam	Door Hardware (Handles, Hinges, Locks)	20%	Steel products Landfill

Material Name	Category	Template Name	Description	Disposal Rate	Disposal Method
Ferrous Metals Steel General Unspecified	External doors	Double Door, Hollow Core, steel jam	Steel Door Jam	20%	Steel products Landfill
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Top Coat	100%	Plastics Landfill
Ferrous Metals Steel General Unspecified	Paint - Walls	Internal Finish - Paint (standard)	Consumables (paint tins, rollers etc)	20%	Steel products Landfill
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Primer	100%	Plastics Landfill
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Undercoat	100%	Plastics Landfill
Metals (Non-Ferous) Copper Unspecified	Electrical installations	Electrical Fittings - sockets, power points, wiring, embodied only (m2)	Copper electrical wire	52%	Copper Landfill
Plastics General Unspecified	Electrical installations	Electrical Fittings - sockets, power points, wiring, embodied only (m2)	Plastic associated with electrical wire and fittings	100%	Plastics Landfill
Ferrous Metals Steel General Unspecified	General fittings, furnishings and equipment	Electrical Fittings - sockets, power points, wiring, embodied only (m2)	Light Fittings	20%	Steel products Landfill
Plastics General Unspecified	General fittings, furnishings and equipment	Electrical Fittings - sockets, power points, wiring, embodied only (m2)	Light Fittings	100%	Plastics Landfill
Ferrous Metals Steel Stainless Unspecified	External doors	External Glass Sliding Door - commercial+hardware	Steel sliders and hardware	20%	Steel products Landfill
Ferrous Metals Steel Stainless Unspecified	Fittings, furnishings and equipment	External Glass Sliding Door - commercial+hardware	Door Hardware (Handles, Hinges, Locks)	20%	Steel products Landfill
Metals (Non-Ferous) Aluminium Unspecified	External windows	Windows single glazed aluminium frame individual components	aluminium frame	42.67%	Aluminium Landfill
Rubber Synthetic	External windows	Windows single glazed aluminium frame individual components	thermal break	100%	Plastics Landfill
Glass Flat Glass	External windows	Windows single glazed aluminium frame individual components	window pane	100%	Glass Land Fill
Glass Flat Glass	Fire and lightning protection	Fire Services Fire sprinkler	Glass bulb	100%	Glass Land Fill
Metals (Non-Ferous) Brass	Fire and lightning protection	Fire Services Fire sprinkler	Deflector, cap etc	52%	Non-ferrous metals Landfill
Ceramics Tiles Ceramic Tiles	Wet Area Floors	Floor Covering - Tiles (ceramic/5mm)	Floor tiles	100%	Inert Waste Landfill
Cements and Limes Portland Cement Unspecified	Wet Area Floors	Floor Covering - Tiles (ceramic/5mm)	Tile grout	100%	Inert Waste Landfill
Resins and Adhesives Urea Formaldehyde	Wet Area Floors	Floor Covering - Tiles (ceramic/5mm)	Sealant	100%	Plastics Landfill
Plastics High Density Polyethylene (HDPE) Unspecified	Standard foundations	Footing, Strip 400 x 300 Concrete 40Mpa 3% reo by volume	Impermeable Lining	80%	Plastics Landfill
Concrete Unreinforced Portland Cement Blends 40 MPa	Standard foundations	Poured Concrete - Foundations, 40MPa	Four Concrete Foundations	100%	Inert Waste Landfill
Ferrous Metals Steel General Unspecified	Standard foundations	Reinforcement Bar Foundations kg	Reinforcement Bar Foundations	20%	No Disposal Process
Plaster and Mineral Derived Products 100% Primary Gypsum Plaster Unspecified	Cornices & Shadowlines	Wall Finish - Plaster Cornices (m)	Cornices 25mm x 200mm	100%	Inert Waste Landfill
Timber Medium Density Fibreboard (MDF) Unspecified	Cornices & Shadowlines	Wall Finish - MDF Skirtings (m)	Skirting Boards MDF 25mm x 150mm	100%	Wood Landfill
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Top Coat	100%	Plastics Landfill
Ferrous Metals Steel General Unspecified	Paint - Walls	Internal Finish - Paint (standard)	Consumables (paint tins, rollers etc)	20%	Steel products Landfill
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Primer	100%	Plastics Landfill
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Undercoat	100%	Plastics Landfill
Insulation Blankets and Batts Glass Fibre Batts R 1.5	Insulation	Bulk Insulation - 75mm Fibreglass (R1.5)	R1.5 fibreglass batts 75mm	100%	Inert Waste Landfill
Timber Softwood Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	100x50mm Studs 600mm centres	100%	Wood Landfill
Timber Softwood Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	600mm Nogs (100x50)	100%	No Disposal Process
Timber Softwood Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Bottom plate (100x50mm)	100%	Wood Landfill
Timber Softwood Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Top Plate (100x50mm)	100%	No Disposal Process
Ferrous Metals Steel General Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Fasteners/nails	20%	Steel products Landfill
Ferrous Metals Steel General Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Diagonal bracing straps	20%	No Disposal Process
Plastics High Density Polyethylene (HDPE) Unspecified	Internal walls and partitions	Internal Wall - Framing, 100mm Timber Stud (600mm centres)	Waterproof membrane	80%	Plastics Landfill
Ferrous Metals Steel General Unspecified	Wall finishes	Wall Lining - 12mm Plasterboard, paint	Fasteners and/or nails	20%	Steel products Landfill
Plaster and Mineral Derived Products 100% Primary Gypsum Plasterboard 12mm Sheets	Wall finishes	Wall Lining - Plasterboard (12mm)	Plasterboard 12mm	100%	No Disposal Process
Ferrous Metals Steel General Unspecified	Wall finishes	Wall Lining - Plasterboard (12mm)	Fasteners and Nails	20%	Steel products Landfill
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Top Coat	100%	Plastics Landfill

Material Name	Category	Template Name	Description	Disposal Rate	Disposal Method
Ferrous Metals Steel General Unspecified	Paint - Walls	Internal Finish - Paint (standard)	Consumables (paint tins, rollers etc)	20%	Steel products Landfill
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Primer	100%	Plastics Landfill
Paints and Finishes Unspecified 1 Coat	Paint - Walls	Internal Finish - Paint (standard)	Undercoat	100%	Plastics Landfill
Ferrous Metals Steel General Unspecified	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	hinges, runners, handles and other hardware like brackets etc	20%	Steel products Landfill
Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	PVC feet	80%	Plastics Landfill
Timber Particle Board Indoor	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	Cabinets	100%	Wood Landfill
Timber Medium Density Fibreboard (MDF) Unspecified	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	kickboard	100%	Wood Landfill
Metals (Non-Ferous) Aluminium Unspecified	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	kickboard covering	42.67%	Aluminium Landfill
Resins and Adhesives Melamine Resin	Domestic kitchen fittings and equipment	Kitchen cabinetry (stone benchtop), medium	Cabinet Coverings	100%	Plastics Landfill
Rock and Stone Polished Granite / Basalt / Marble	Domestic kitchen fittings and equipment	Engineered Stone Benchtop	Stone Benchtop	100%	Recycling Brick and tile waste
Glass Flat Glass	Domestic kitchen fittings and equipment	Engineered Stone Benchtop	Glass Content of Benchtop	100%	Recycling Brick and tile waste
Resins and Adhesives Epoxy Resin	Domestic kitchen fittings and equipment	Engineered Stone Benchtop	Benchtop Bonding Agent	100%	Plastics Landfill
Timber Hardwood Unspecified	Roof structure	Structure - Timber Truss 10m (0.24x0.025x10)	Top chord of trussx2 0.24x0.025x10	100%	Wood Landfill
Timber Hardwood Unspecified	Frame	Structure - Timber Truss 10m (0.24x0.025x10)	Bottom chord of trussx2 0.24x0.025x10	100%	Wood Landfill
Timber Hardwood Unspecified	Frame	Structure - Timber Truss 10m (0.24x0.025x10)	Truss Stiffener Platesx8 (0.24x0.25x1.35)	100%	Wood Landfill
Timber Hardwood Unspecified	Frame	Structure - Timber Truss 10m (0.24x0.025x10)	Truss Uprightsx18 (0.24x0.025x0.5)	100%	Wood Landfill
Plastics Polyvinyl Chloride (PVC) PVC Pipe	Roof drainage	Gutter - PVC	1m of 3mm thick semi circular gutter (112mm)	80%	Plastics Landfill
Ferrous Metals Steel Galvanised Structural Unspecified	Roof drainage	Gutter - PVC	Screws, bolts & fixings	20%	Steel products Landfill
Ferrous Metals Steel Coated Sheet Zinc Coated & Coloured Sheet 0.43mm	Roof coverings	Covering - Steel Sheetting 0.42mm corrugated	0.48mm corrugated/CustomOrb sheet	20%	Steel products Landfill
Ferrous Metals Steel Stainless Unspecified	Roof coverings	Covering - Steel Sheetting 0.42mm corrugated	Fastenings	20%	Steel products Landfill
Insulation Blankets and Batts Glass Fibre Batts Unspecified	Insulation	Insulation - Roofing Blanket (foil-lined)	R1.3 glasswool blanket	100%	Inert Waste Landfill
Metals (Non-Ferous) Aluminium Unspecified	Insulation	Insulation - Roofing Blanket (foil-lined)	Foil lining	42.67%	Aluminium Landfill
Resins and Adhesives Melamine Resin	Insulation	Insulation - Roofing Blanket (foil-lined)	Foil glue	100%	Plastics Landfill
Timber Plywood Unspecified	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Engineered I Beam Web	100%	Wood Landfill
Resins and Adhesives Urea Formaldehyde	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Engineered I Beam Glue	100%	Plastics Landfill
Timber Glue Laminated Unspecified	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Bearers / End Caps	100%	Wood Landfill
Ferrous Metals Steel General Unspecified	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Hangers, Bolts, brackets and nails	20%	Steel products Landfill
Resins and Adhesives Urea Formaldehyde	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Liquid Nails type Adhesive	100%	No Disposal Process
Timber Softwood Unspecified	Lowest floor construction	Timber Framed Floor - Elevated Lowest Floor (Substructure)	Engineered I Beam Flanges	100%	Wood Landfill
Plastics Polyurethane Unspecified	Lowest floor construction	Floor Covering - 19mm particle/chipboard flooring (Substructure)	Glue	100%	Plastics Landfill
Ferrous Metals Steel General Unspecified	Lowest floor construction	Floor Covering - 19mm particle/chipboard flooring (Substructure)	Hangers, Bolts, brackets and nails	20%	No Disposal Process
Timber Medium Density Fibreboard (MDF) Unspecified	Lowest floor construction	Floor Covering - 19mm particle/chipboard flooring (Substructure)	19mm Particleboard	100%	Wood Landfill
Plastics High Density Polyethylene (HDPE) Unspecified	External enclosing walls above ground level	Wall, 150mm CLT, Unfinished, m2	Waterproof membrane	80%	Plastics Landfill
Timber Cross Laminated Timber Unspecified	External enclosing walls above ground level	Wall, 150mm CLT, Unfinished, m2	CLT Structure	100%	Wood Landfill
Ferrous Metals Steel General Unspecified	External enclosing walls above ground level	Wall, 150mm CLT, Unfinished, m2	Fasteners / nails	20%	Steel products Landfill
Windows Aluminium Framed No Thermal Break Double Glaze Domestic 50% Opening	External windows	Windows, Residential Aluminium Double Glaze, fly screen	Windows / Sliding Doors	100%	Inert Waste Landfill
Metals (Non-Ferous) Aluminium Unspecified	Security and Fly Screens	Fly Screen	Fly screen frame	42.67%	Aluminium Landfill
Plastics General Unspecified	Security and Fly Screens	Fly Screen	Flyscreen Mesh	100%	No Disposal Process
Rubber Synthetic	Security and Fly Screens	Fly Screen	Flyscreen rubber spline	100%	No Disposal Process



Life Cycle Assessment

Date : 26 April 2020

Authors :

Peer Reviewer :

Version : 0



eToolLCD Software Disclaimer

The LCA predictions of embodied and operational impacts (including costs) conducted in eToolLCD software, by their very nature, cannot be exact. It is not possible to track all the impacts associated with a product or service back through history, let alone do this accurately. eToolLCD software has been built and tested to enable informed decisions when comparing design options. Generic cost and environmental impact coefficients do not necessarily correspond to those of individual brands of the same product or service due to differences within industries in the way these products and services are delivered.

eTool PTY LTD cannot make assurances regarding the accuracy of these reports for the above reasons.

© 2020 eTool PTY LTD All rights reserved

NOT FOR COMMERCIAL USE:
FIGURES HAVE NOT BEEN VALIDATED
YET TO BE CERTIFIED



Executive Summary

This Life Cycle Assessment has been completed for the FINAL DESIGN, modular apartments located at 1 ROSEBERY STREET. The Author of the study is of and the critical review has been conducted by of .

The goal of this study is to profile and improve the environmental performance of the construction works at 1 ROSEBERY STREET. The study has been conducted in accordance with ISO 14044 and EN15978.

The following table summarises environmental impact results.









Characterised Impacts Per Dwelling Per Year		Materials and Construction	Use Stage	End of Life Stage	Benefits and Loads Beyond the System Boundary	Total
		A	B	C	D	
Environmental Impacts						
 Global Warming Potential, GWP	kg CO2 eq	782	3020	602	-48.5	436
 Ozone Depletion Potential, ODP	kg CFC-11 eq	41.2	22.2	4.81	-0.06	68.1
 Acidification Potential for Soil and Water, AP	kg SO2 eq.	7.47	6.13	0.211	-0.333	10.5
 Eutrophication potential, EP	kg PO4--- eq	2.25	2.09	0.047	-0.0549	4.33
 Photochemical Ozone Creation Potential, POCP	kg ethylene	0.958	0.223	0.161	-0.0769	1.21
 Abiotic Depletion Potential - Elements, ADPE	kg antimony	0.127	0.106	4.95e-6	6.24e-3	0.227
 Abiotic Depletion Potential - Fossil Fuels, ADPF	MJ	12300	34800	25.2	-710	46400
Additional Indicators						
 Embodied Energy	MJ NCV	24000	36200	27.2	-721	59500

Table 1. Summary of Results

The majority of impacts were found to be caused during the Materials and Construction (Module A) which had the highest impacts in 5 of the 26 environmental indicators.

NOT FOR COMMERCIAL USE:
 FIGURES HAVE NOT BEEN VALIDATED
 YET TO BE CERTIFIED



Final Design Performance

(Characterised Impacts Per Dwelling Per Year)



4360 kg CO2 eq

Global Warming Potential, GWP



68.1 kg CFC-11 eq

Ozone Depletion Potential, ODP



13.5 kg SO2 eq.

Acidification Potential for Soil and Water, AP



4.33 kg PO4³⁻ eq

Eutrophication potential, EP



1.21 kg ethylene

Photochemical Ozone Creation Potential, POCP



0.227 kg antimony

Abiotic Depletion Potential - Elements, ADPE



46400 MJ

Abiotic Depletion Potential - Fossil Fuels, ADPF



59500 MJ NCV

Embodied Energy

NOT FOR COMMERCIAL USE: FIGURES HAVE NOT BEEN VALIDATED YET TO BE CERTIFIED



Table of Contents

- 1 Introduction
- 2 Goal of the study
- 3 Scope of the study
- 4 Inventory Analysis
- 5 Life Cycle Impact Assessment
- 6 Life Cycle Interpretation
- 7 Low Impact Strategies
- 7 Conclusions
- 9 References
- Appendix A: Environmental Indicators Description
- Appendix B: Detailed Structure Scope Diagram

NOT FOR COMMERCIAL USE:
FIGURES HAVE NOT BEEN VALIDATED
YET TO BE CERTIFIED



1 Introduction

Managing the environmental impacts that arise from the construction and operation of Building is of key importance in mitigating the damage caused directly and indirectly on the biosphere. Life Cycle Assessment (LCA) is the leading industry standard in clearly identifying optimum strategies for reducing environmental impacts. This report presents the results of the LCA completed for the FINAL DESIGN , modular apartments Project located at 1 ROSEBERY STREET. eToolLCD software has been used to model the infrastructure's environmental impacts.

The study has been conducted in accordance with the following standards:

- International Standards 14040 and 14044.
- European Standard EN 15978: *Sustainability of Construction Works – Assessment of Environmental Performance of Buildings – Calculation Method*

2 Goal of the study

The goal of this study is to provide profile and improve the environmental performance of the construction works at 1 ROSEBERY STREET. No comparisons to other design options are being made and as such this study is not a comparative study. The results of the study are intended to be made public.

3 Scope of the study

The LCA study has been conducted in accordance with the EN 15978 standard to assess the direct and indirect potential environmental impacts associated with the construction works at 1 ROSEBERY STREET as part of the modular apartments project.

3.1 Functional Unit

The function of the Building must reflect the core purpose of the asset such that it can be compared accurately to different designs. In this case the functional focus is the 2 BED and the chosen functional unit is the provision of this function for one Dwelling over one year.

The estimated design life of the design is 30 years which has been adopted for the LCA study period. This takes into consideration the structural service life limit (50 years), as well as redevelopment pressure on the asset such as surrounding density, asset ownership structures, and the architectural design quality.

Note that products with expected service lives of less than the life span of the project are assumed to be replaced at increments reflecting their service life.

3.2 System Boundary

The system boundary, shown in Figure 1, follows guidance given in EN15978.

NOT FOR COMMERCIAL USE
FIGURES HAVE NOT BEEN VALIDATED
YET TO BE CERTIFIED



System Boundary

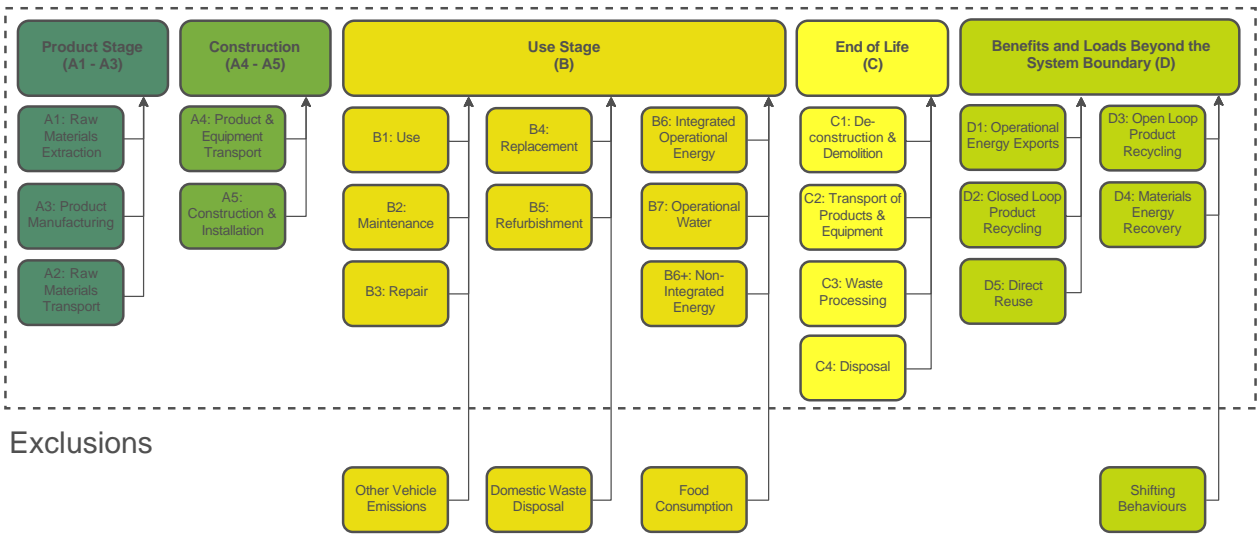


Figure 1: System Boundary Diagram

3.3 Environmental Indicators

The environmental indicators have been included in the study are detailed in Table 2. For further information regarding the environmental indicators please refer to Appendix A.

Environmental Indicator	Unit	Abbreviation	Characterisation Method
Environmental Impacts			
Global Warming Potential, GWP	kg CO2 eq	GWP	CML-IA baseline V4.5
Ozone Depletion Potential, ODP	kg CFC-11 eq	ODP	CML-IA baseline V4.5
Acidification Potential for Soil and Water, AP	kg SO2 eq	AP	CML-IA baseline V4.5
Eutrophication potential, EP	kg PO4 ³⁻ eq	EP	CML-IA baseline V4.5
Photochemical Ozone Creation Potential, POCP	kg ethylene	POCP	Institute of Environmental Sciences (CML)
Abiotic Depletion Potential - Elements, ADPE	kg antimony	ADPE	CML-IA baseline V4.5
Abiotic Depletion Potential - Fossil Fuels, ADPF	MJ	ADPF	CML-IA baseline V4.5
Additional Indicators			
Embodied Energy	MJ NCV	EE	CML-IA baseline V4.5

Table 2: Environmental Indicators Included in LCA study.

3.4 System Description

The object of the assessment is the structure itself. The assessment includes all the upstream and downstream processes needed to provide the primary function of the structure from construction, maintenance, operation, and finally demolition and disposal. The



inventory includes the extraction of raw materials or energy and the release of substances back to the environment or to the point where inventory items exit the system boundary either during or at the end of the project life cycle.

The project location is shown in figures 2 and 3.

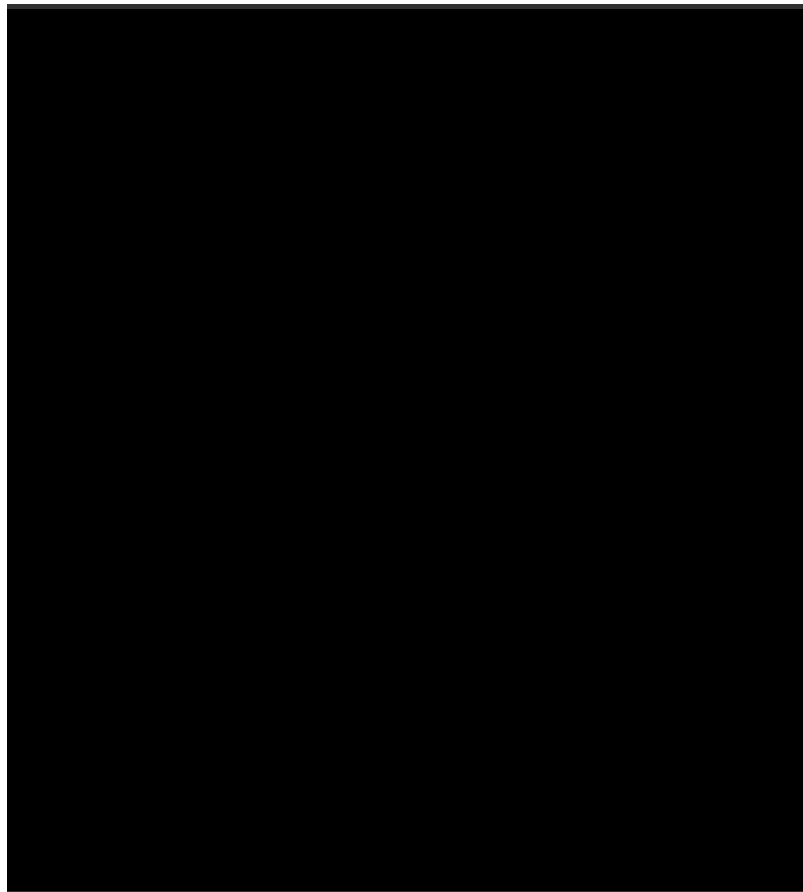


Table 3 below shows the key characteristics of the design.

FINAL DESIGN	
Design Detail	
Design Purpose	Final Design
Stories (#)	1
Primary Function	2 BED
Structural Service Life Limit	50
Predicted Design Life	30
Functional Characteristics	
Dwellings	1
Bedrooms	1
Occupants	1
Total Floor Areas	
Usable Floor Area	1



FINAL DESIGN	
Net Lettable Area	0
Fully Enclosed Covered Area	1
Unenclosed Covered Area	0
Gross Floor Area	1
Usable and Lettable Yield	100 %

Table 3: Design Characteristics Compared

Table 4 and 5 show the scope (structural and operational) of the inventory collection for the LCA. For further details on structure scope please refer to Appendix B.

Summary Structure Scope Diagram

Key: ✓ In Scope ✓ Partial ✗ Out of Scope

Category Name	Final Design
Substructure	✓
Superstructure	✓
Internal finishes	✓
Fittings, furnishings and equipment	✓
Services equipment	✓
Prefabricated buildings and building units	✗
Work to existing building	✗
External works	✓
Facilitating works	✗
Project/design team	✗
Undefined	✓

Table 4: Structural scope of LCI collection

Operational Scope diagram

Key: ✓ In Scope ✗ Out of Scope

Category Name	Final Design
Appliances Dishwashers	✓
Appliances Entertainment	✓
Appliances Laundry Appliances	✓
Appliances Office Workstations	✓
Communications	✓
Cooking and Food Preparation	✓
Domestic Water Heating	✓
Electrical Parasitic Loads	✓
Fire Protection	✓
HVAC	✓
Industrial & Manufacturing Equipment	✗
Lifts, Elevators and Conveying	✗
Lighting	✓
Miscellaneous	✓
Monitoring, Control and Automation	✓
Power Generation and Storage	✗
Refrigeration	✓
Safety and Security	✓
Swimming Pools	✗
Water Pumping	✓
Water Removal and Treatment	✓
Water Supply	✓
Workshops, Garage & Misc	✗

Table 5: Operational scope of LCI collection

3.5 Cut off Criteria



The EN15978 cut-off criteria were used to ensure that all relevant potential environmental impacts were appropriately represented:

- Mass – if a flow is less than 1% of the mass at either a product-level or individual-process level, then it has been excluded, provided its environmental relevance is not of concern.
- Energy – if a flow is less than 1% of the energy at either a product-level or individual-process level, then it has been excluded, provided its environmental relevance is not a concern.
- The total of neglected input flows per module, e.g. per module A1-A3, A4-A5, B1-B5, B6-B7, C1-C4 and module D shall be a maximum of 5% of energy usage and mass.
- Environmental relevance – if a flow meets the above criteria for exclusion, but is considered to potentially have a significant environmental impact, it has been included. All material flows which leave the system (emissions) and whose environmental impact is higher than 1% of an impact category, have been included.

The Operational Guidance for Life Cycle Assessment Studies (Wittstock et al. 2012) states:

The apparent paradox is that one must know the final result of the LCA (so one can show that the omission of a certain process is insignificant for the overall results) to be able to know which processes, elementary flows etc. can be left out.

The approach taken in this study is to continue modelling smaller inputs until confidence is gained that the criteria is safely met.

3.6 Allocation

Allocation rules follow those of EN15804 as given below:

- Allocation will respect the main purpose of the studied processes. If the main purpose of combined processes cannot be defined (e.g. combined mining and extraction of nickel and precious metals), economic allocation may be used to divide resources and emissions between the products.
- The principle of modularity is maintained. Where processes influence the product's environmental performance during its life cycle, they will be assigned to the module where they occur.
- The sum of the allocated inputs and outputs of a unit process are equal to the inputs and outputs of the unit process before allocation. This means no double counting of inputs or outputs is permissible.

3.7 Independent Review

The critical review has been undertaken in accordance with ISO14044.

NOT FOR COMMERCIAL USE;
 FIGURES HAVE NOT BEEN VALIDATED
 YET TO BE CERTIFIED



4 Inventory Analysis

The design has been modelled using the available eToolLCD elements, templates and EPDs as shown in Table 6.

eToolLCD Item Type	Count in Design
	Final Design
Design Templates	77
Equipment and People Elements	103
Material Elements	212
Energy Elements	16
Water Elements	12
EPDs	0

Table 6: Count of elements, templates and EPDs in the design

The eToolLCD library templates are customisable and users may submit templates for validation. The template validation process is undertaken by experienced LCA practitioners and is a process of checking the user inputs and ensuring the assumptions are adequately referenced. Table 7 shows the extent to which validated templates were used in the model.

eToolLCD Item Type	Validated (%)
	Final Design
Total Design Templates	50.65
Equipment and People Elements	60.19
Material Elements	34.43
Energy Elements	0
Water Elements	0

Table 7: Use of validated templates

4.1 Templates Comparison

The eToolLCD templates found in each design are provided in Table 8.

Parent Template Name	Units	Quantity
		Final Design
Services equipment		
(TS) Services, Multi Res - NCC Compliant	#	1
150mm Sewer Pipe - Excavated and Backfilled	m2	20
Average Water Use & Treatment WA/AUS (no garden/pool)	#	1
Electrical Fittings - sockets, power points, wiring, embodied only (m2)	m2	86
Fire Services Fire sprinkler	#	6
Fittings, furnishings and equipment		
Appliances- High Efficiency (AU) OptiEm Multi-res (extended warranty)	#	1
Bathroom Fixtures - WC/shower/sink	#	1
Kitchen cabinetry (stone benchtop) medium	#	1
Superstructure		
Balustrade, Steel End Posts and Steel Rails	m2	8.5
Bulk insulation - 90mm Fibreglass (R2.0)	m2	86
CLT Timber Floor cubic meters (m3)(Superstructure)	m3	11.61
Door - SolidCoreTimber/Steel Jam/Painted (#)	#	5
Double Door - Hollow Core, Steel Jam	#	4
External Glass Sliding Door - commercial hardware	m2	10.8
Internal Wall - 90mm Timber Frame, Painted PF lining	m2	51.75
Roof - TimberTruss/Steel 5°Pitch/noCeiling	m2	96.8
Wall, 50mm CLT Unfinished, m2	m2	128.7
Windows, Residential Aluminium Double Glaze, fly screen	m2	4
Internal finishes		
Ceiling - Plasterboard+paint	m2	86
Floor Covering - Tiles (ceramic/5mm)	m2	10
Substructure		
Footing, Strip 400 x 300 Concrete 40Mpa 3% reo by volume	lm	33
Timber Floor Substructure - elevated frame, 19mm particleboard covering	m2	86
External works		
Landscaping, site preparation	m2	68.8



Table 8: Templates Comparison (showing master templates only)

4.2 eToolLCD software

eToolLCD software was used to model life cycle impacts of the project. eToolLCD uses third party background processes aggregated as mid-point indicators and stored in a number of libraries within the software which are coupled with algorithms and user inputs to output the environmental impact assessment. A map of user inputs, data sources and algorithms (outputs) is given in Figure 4.

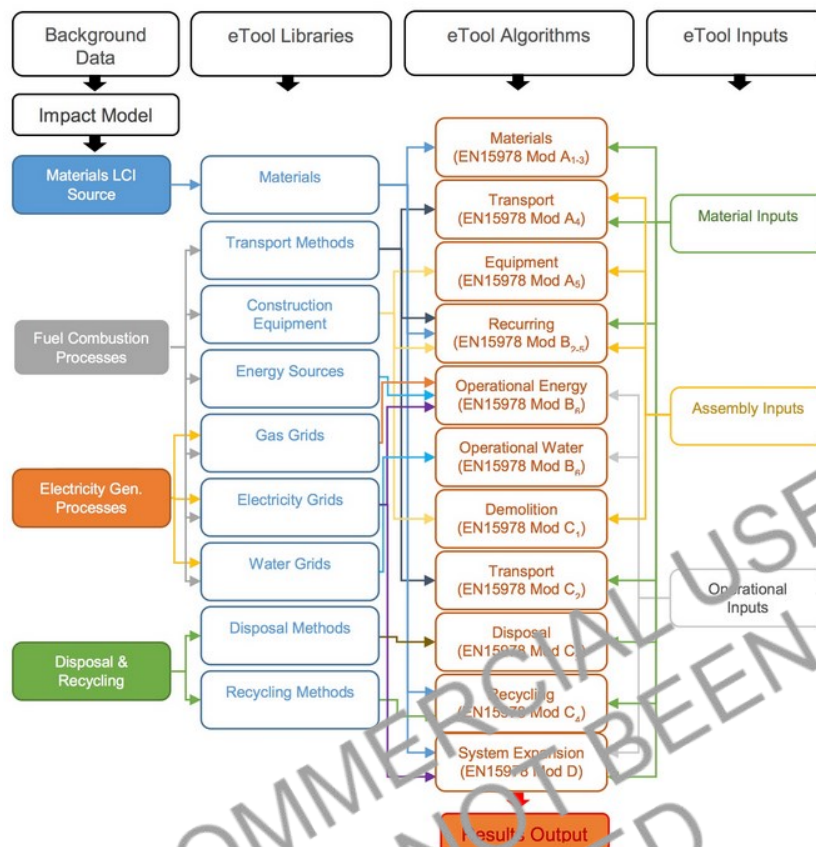


Figure 4: Relationship between LCI background data, eTool LCD software library, inputs and algorithms.

4.3 Data Quality

The data quality requirements for the background data are detailed in Table 9. Each of the criteria has been assessed for compliance and results presented below.

Criteria	Background Data Requirement	Compliance
		Final Design
Temporal Relevancy	For annually fluctuating processes like Grid electricity fuel mixes the datasets must have been updated within the last 2 years. More static processes like materials production must have been updated within the last 10 years. Product specific EPDs must have been updated in the last 5 years.	Passed Grid Passed Materials
Geographical Relevancy	The background data should be specifically compiled for the same country (preferable) or continent as the project location.	Passed (Same Country)
Precision	No requirement specified however a qualitative review undertaken to ensure no erroneous values	Passed
Completeness	Qualitative assessment of the process to ensure no obvious exclusions	Passed
Technological Relevancy	Ensure that technology assumptions are representative for the product or product group.	Passed
Consistency	The study methodology holds for the background data.	Passed



Criteria	Background Data Requirement	Compliance
		Final Design
Reproducibility	The information available about the methodology and the data values reported should allow an independent practitioner to reproduce the results reported in the study.	Passed

Table 9: Summary of data quality requirements for the study.

Criteria	Inventory Collection Requirement (eToolLCD User Inputs)	Compliance
		Final Design
Temporal Relevancy	All inputs into eToolLCD to be reflective of the project being assessed and if assumptions are made these are to be based on industry practices that are consistent with the project commissioning date.	Passed 0/5 Checks
Geographical Relevancy	All inputs into eToolLCD must be reflective of the project being assessed and if assumptions are made these are based on the current practices employed in the project country.	Passed 0/6 Checks
Precision	To avoid aggregated errors a high level of precision is expected inputs into eToolLCD software, being either to 3 significant figures or: <ul style="list-style-type: none"> Two significant figures or nearest 10 hours for equipment run time Two significant figures or nearest 10kg for material quantities Two significant figures or nearest 100MJ / annum for operational energy Two significant figures or nearest 100kL / annum for operational water use 	Passed 0/5 Checks
Completeness	Inputs to cover all life cycle phases and elements identified in the system boundary. The link between background data, eToolLCD algorithms and subsequent LCA results is not to introduce significant gaps in the data.	Passed 0/11 Checks
Technological Relevancy	All inputs into eToolLCD must be reflective of the project being assessed and if assumptions are made these must be drawn from appropriate examples of like technology.	Passed 0/5 Checks
Consistency	All inputs into eToolLCD must be reflective of the project being assessed and if assumptions are made these are drawn from the same reference library.	Passed 0/14 Checks
Reproducibility	The information available about the methodology and the data values reported should allow an independent practitioner to reproduce the results reported in the study.	Passed 0/10 Checks

Table 10: Summary of data quality requirements for the study.

4.4 Completeness

The study aims to follow EN15804 procedures for exclusion of inputs and outputs:

- All inputs and outputs to a (unit) process shall be included in the calculation, for which data are available.
- Data gaps may be filled by conservative assumptions with average or generic data. Any assumptions for such choices shall be documented.
- In case of insufficient input data or data gaps for a unit process, the cut-off criteria shall be 1 % renewable and non-renewable primary energy usage and 1 % of the total mass input of that unit process.
- The total of neglected input flows per module (e.g. per module) shall be a maximum of 5 % of energy usage and mass.
- Conservative assumptions in combination with plausibility considerations and expert judgement can be used to demonstrate compliance with these criteria.
- Particular care should be taken to include material and energy flows known to have the potential to cause significant emissions into air and water or soil related to the environmental indicators.

Two major tests were run to determine the compliance with the above cut-off rules.

4.3.1 Inventory Mass Quantities

The cumulative mass of inventory entries is shown in Figure 5. Given that 122 material elements within the LCA baseDesign make up the last 1% of mass inventory entries a high level of confidence exists that the cut off rules have been upheld.



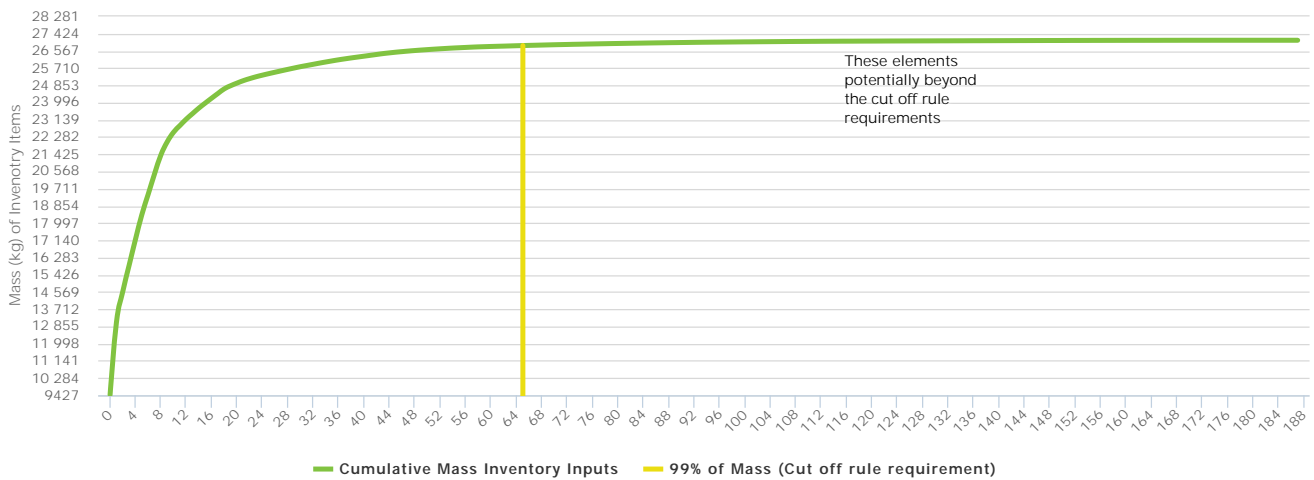


Figure 5: Cumulative Mass Inventory Entries. In this case 64.89% make up the last 5% of mass inventory entries.

4.3.2 Inventory Energy Analysis

The cumulative embodied energy of inventory entries is shown in Figure 6. Given that 145 elements within the LCA baseDesign make up the last 1% of embodied energy inventory entries a high level of confidence exists that the cut off rules have been upheld.

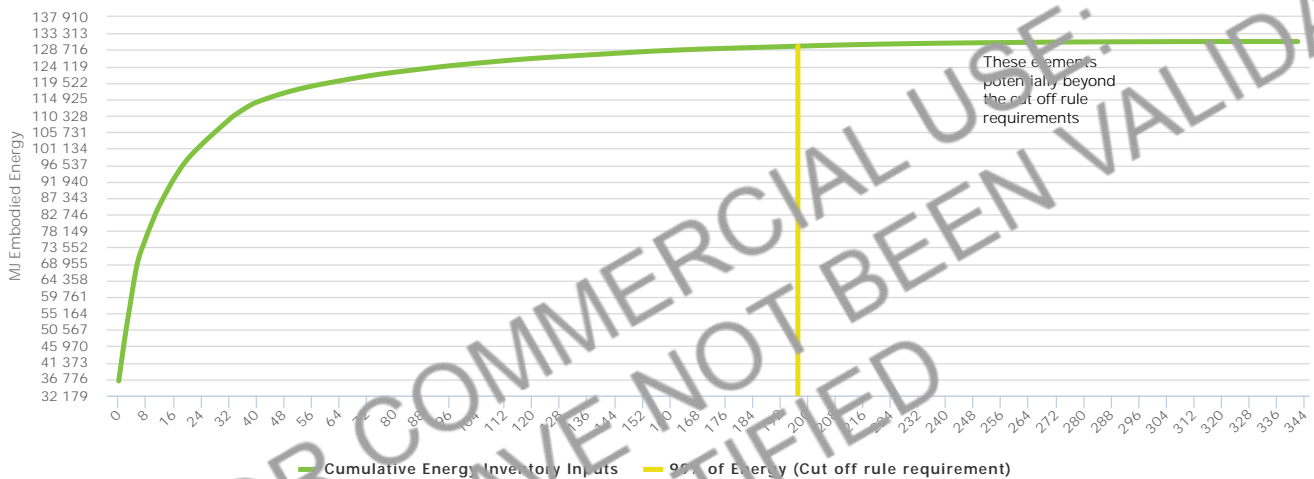


Figure 6: Cumulative Energy Inventory Entries. In this case 42.27% make up the last 5% of energy inventory entries.

5 Life Cycle Impact Assessment

The Life Cycle Impact Assessment (LCIA) results are provided in Table 11 in the EN15978 reporting format. The heat map highlights the highest impacts for each indicators assessed. For further details on the LCIA please refer to interpretation.



5.1 Final Design Environmental Impacts Indicators

Characterised Impacts Per Dwelling Per Year	Materials and Construction			Use Stage							End of Life Stage				Benefits and Loads Beyond the System Boundary	Total		
	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B6+	B7	C1	C2	C3	C4		D	
Final Design																		
GWP	kg CO2 eq	3.80e+2	2.60e+2	1.42e+2	0	1.22e+2	MNA	3.04e+2	0	1.47e+3	9.67e+2	155.5	0	2.08e+1	0.0349	5.81e+2	-4.85e+1	4.36e+3
ODP	kg CFC-11 eq	6.18e-1	3.00e+1	1.06e+1	0	1.01e+1	MNA	6.97e+0	0	2.38e+0	1.56e+0	1.20e+0	0	2.44e+0	7.14e-4	2.36e+0	-6.00e-2	6.81e+1
AP	kg SO2 eq.	4.89e-2	1.91e+0	6.70e-1	0	6.56e-1	MNA	1.07e+0	0	2.42e+0	1.59e+0	4.01e-1	0	1.54e-1	7.38e-4	5.68e-2	-3.33e-1	1.35e+1
EP	kg PO4--- eq	1.68e+0	4.25e-1	1.49e-1	0	1.43e-1	MNA	3.61e-1	0	7.86e-1	5.16e-1	2.80e-1	0	3.40e-2	1.87e-4	1.29e-2	-5.49e-2	4.33e+0
POCP	kg ethylene	8.31e-1	5.14e-2	2.57e-2	0	2.61e-2	MNA	8.09e-2	0	6.00e-2	3.94e-2	1.68e-2	0	3.89e-3	2.00e-5	9.68e-2	-7.69e-2	1.21e+0
ADPE	kg antimony	1.26e-1	6.26e-4	5.33e-7	0	2.57e-5	MNA	4.75e-2	0	3.45e-2	2.27e-2	1.17e-3	0	1.11e-9	5.31e-10	4.95e-6	-6.24e-3	2.27e-1
ADPF	MJ	1.21e+4	5.27e+1	8.56e+1	0	1.49e+2	MNA	1.94e+3	0	1.91e+4	1.25e+4	1.12e+3	0	2.06e-3	3.42e-4	2.52e+1	-7.10e+2	4.64e+4

Table 11: Environmental Impacts Impact of Each Life Cycle Phase.

INA: Indicator Not Assessed. MNA: Module Not Assessed.

Impact Key: ■ Top 10% ■ Top 20% ■ Top 30%

Savings Key: ■ Top 10% ■ Top 20% ■ Top 30%

NOT FOR COMMERCIAL USE:
 FIGURES HAVE NOT BEEN VALIDATED
 YET TO BE CERTIFIED



5.2 Final Design Additional Indicators Indicators

Characterised Impacts Per Dwelling Per Year	Materials and Construction			Use Stage								End of Life Stage				Benefits and Loads Beyond the System Boundary	Total	
	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B6+	B7	C1	C2	C3	C4	D		
Final Design																		
EE	MJ NCV	2.38e+4	1.14e+2	8.92e+1	0	1.59e+2	MNA	2.12e+3	0	1.96e+4	1.29e+4	1.38e+3	0	0.8285	2.77e-3	2.64e+1	-7.21e+2	5.95e+4

Table 12: Additional Indicators Impact of Each Life Cycle Phase.

INA: Indicator Not Assessed. MNA: Module Not Assessed.

Impact Key: ■ Top 10% ■ Top 20% ■ Top 30%

Savings Key: ■ Top 10% ■ Top 20% ■ Top 30%

NOT FOR COMMERCIAL USE:
 FIGURES HAVE NOT BEEN VALIDATED
 YET TO BE CERTIFIED



6 Life Cycle Interpretation

The following sections provide more detailed results of the life cycle impact assessment for each environmental indicator with the aim of identifying the largest areas of impact. A one page profile for each indicator is provided on the subsequent pages giving detailed information about the indicator. Each chart provided is explained below.

Impact Time Series Chart:

A chart displaying when impacts occur during the life of a design. This enables users to gain insights such as the “environmental payback period” of a design compared to alternatives, or when there are jumps in an impact value during the life of the project (for example, relating to a large replacement item).

Top Five Charts

Each top 5 chart categorises the buildings and expresses the environmental impacts by these categories. This enables a detailed understanding of what is responsible for the greatest environmental burdens and also compares these burdens between designs. The pie chart associated with each bar chart shows the proportion of the building that is represented in the bar chart. A brief description of the categories is provided below:

- **LC Module Impacts:** The EN15978 Life Cycle Modules. Generally 100% building impacts will be included in the bar chart.
- **Construction Category:** The breakdown of the impacts by construction category. The bar chart will generally only part of the total building impacts.
- **Operational Demand:** The building end use demands that are driving environmental impacts.
- **Energy Supply:** The supply of fuels to the building, in effect the upstream fuel sources supplying energy for on site use during construction, operational and demolition.
- **Materials:** The materials (grouped into common categories) that are driving the environmental impacts.
- **Equipment and People:** The equipment and people required during construction, maintenance and demolition and all associated transport trips that are driving the environmental impacts

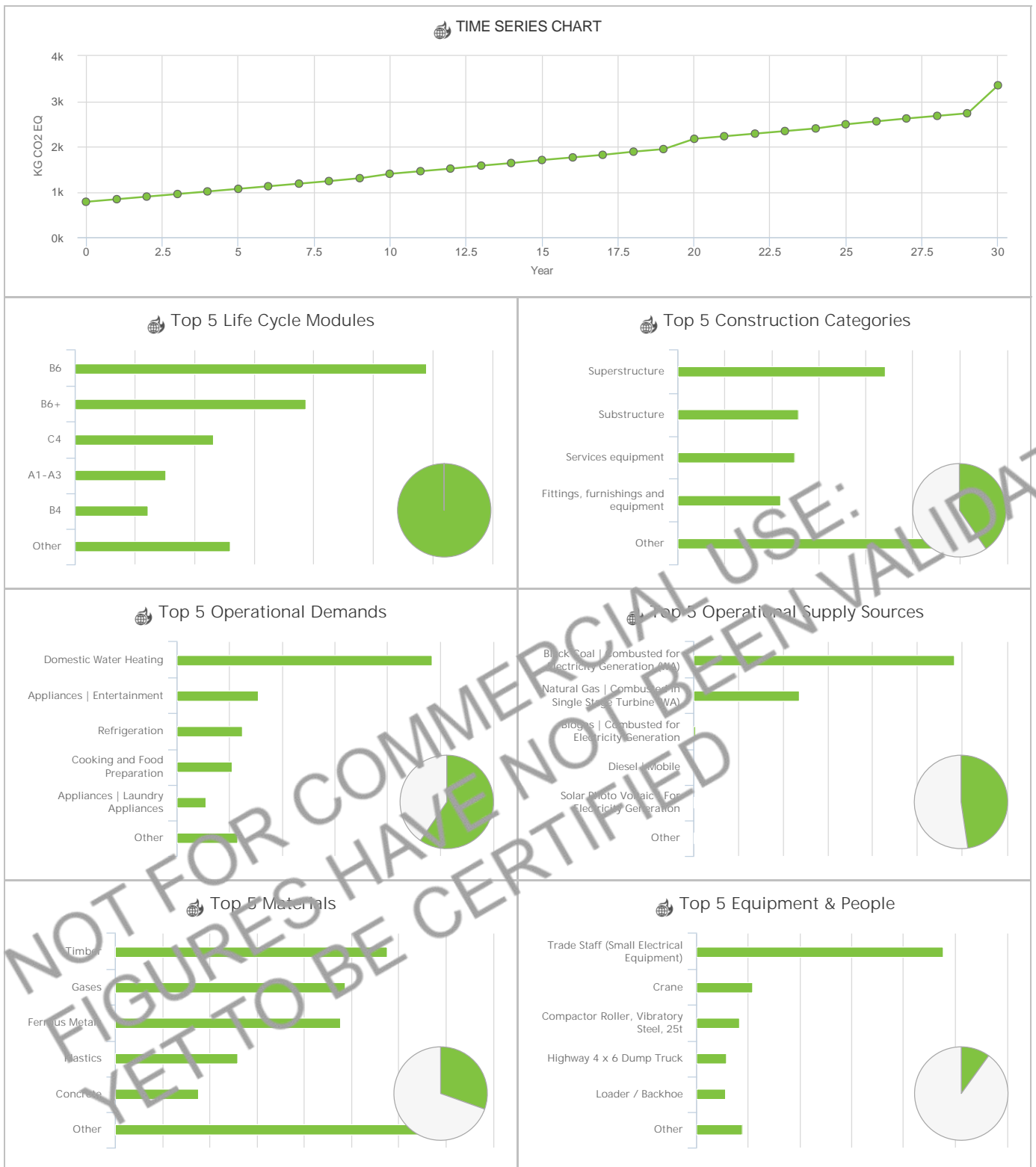
All impact figures are quoted per the functional unit selected for the study.

NOT FOR COMMERCIAL USE:
 FIGURES HAVE NOT BEEN VALIDATED
 YET TO BE CERTIFIED



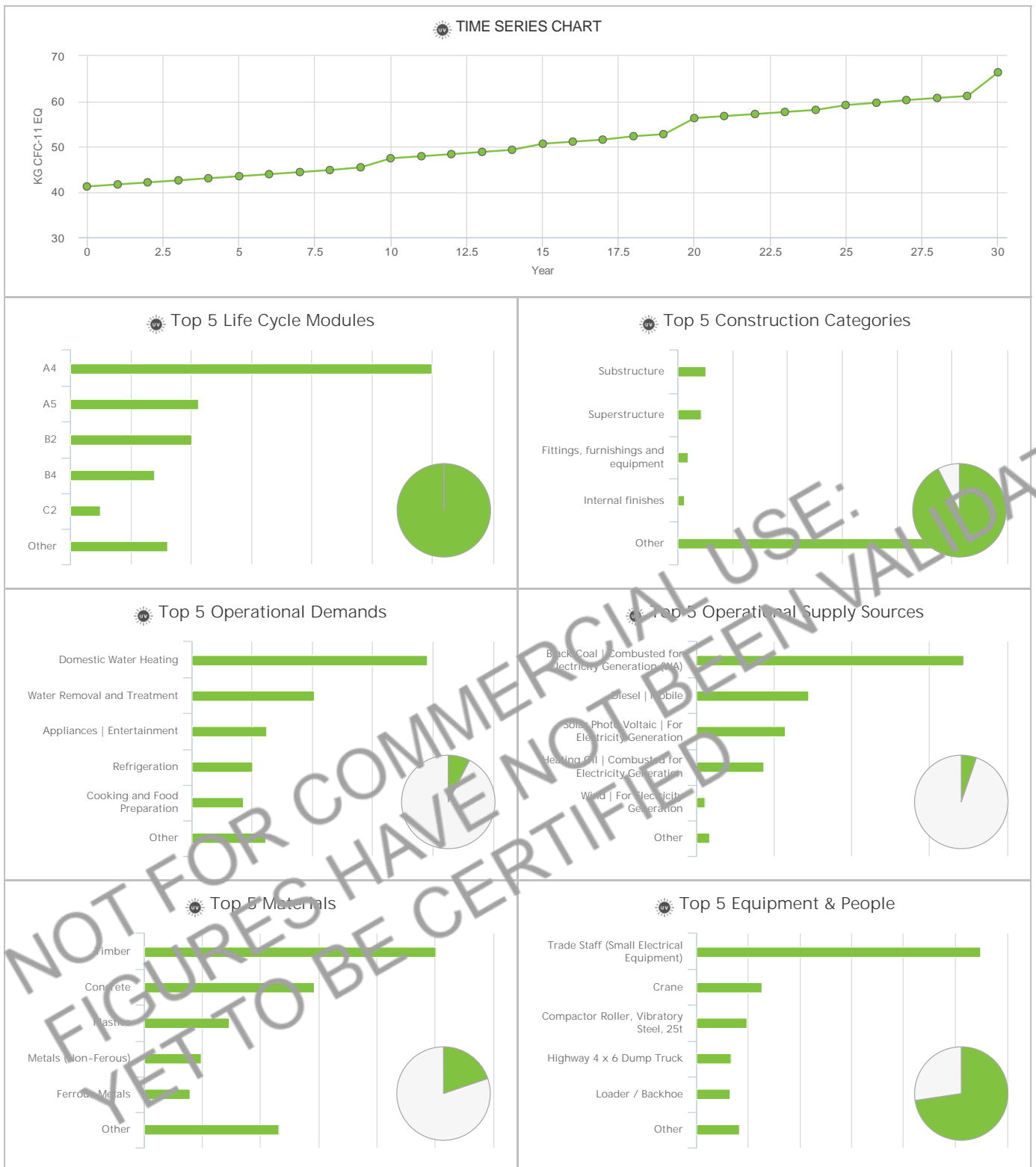
6.1 Global Warming Potential, GWP Profile

■ Final Design



6.2 Ozone Depletion Potential, ODP Profile

■ Final Design

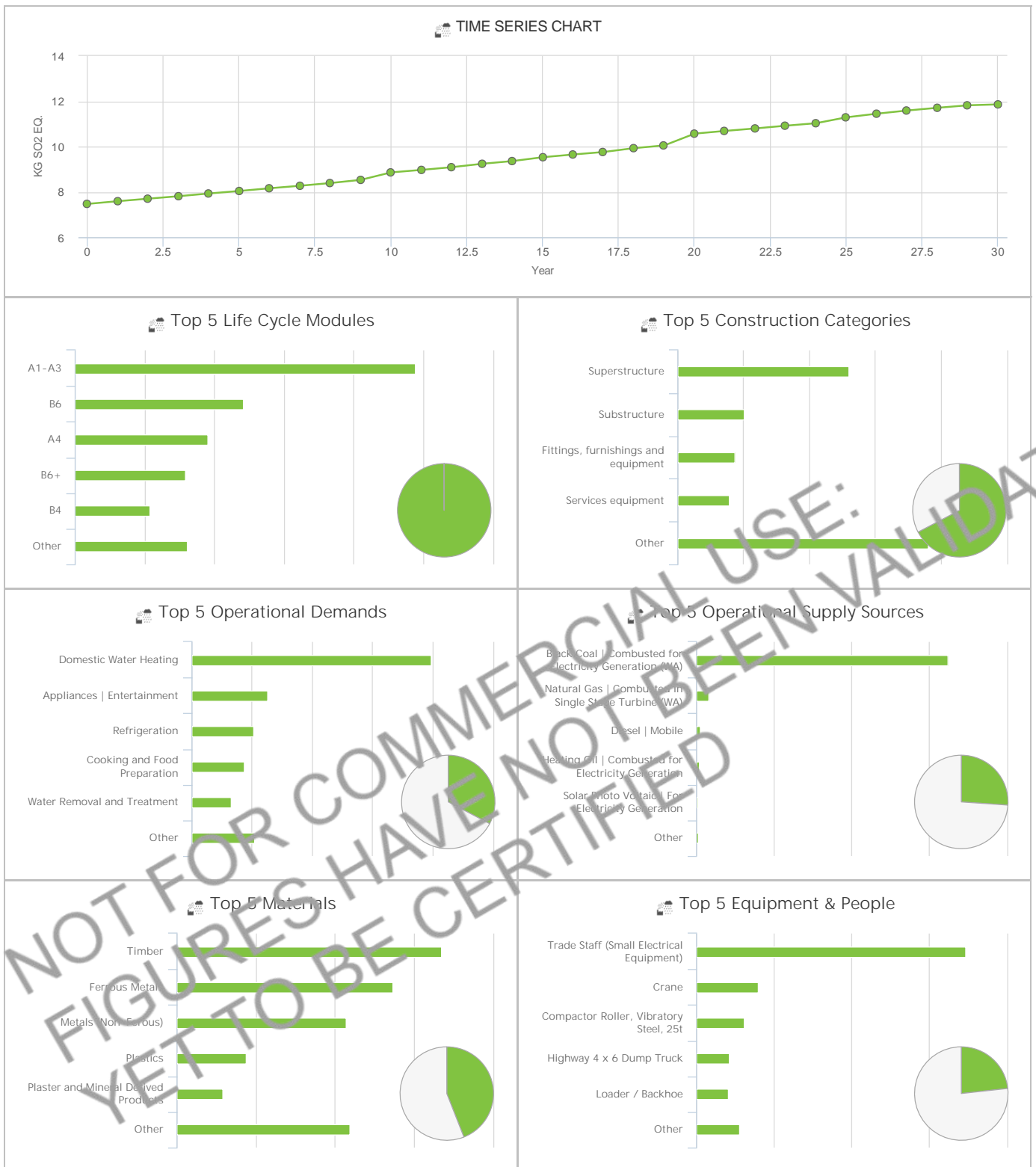


NOT FOR COMMERCIAL USE: FIGURES HAVE NOT BEEN VALIDATED YET TO BE CERTIFIED



6.3 Acidification Potential for Soil and Water, AP Profile

■ Final Design

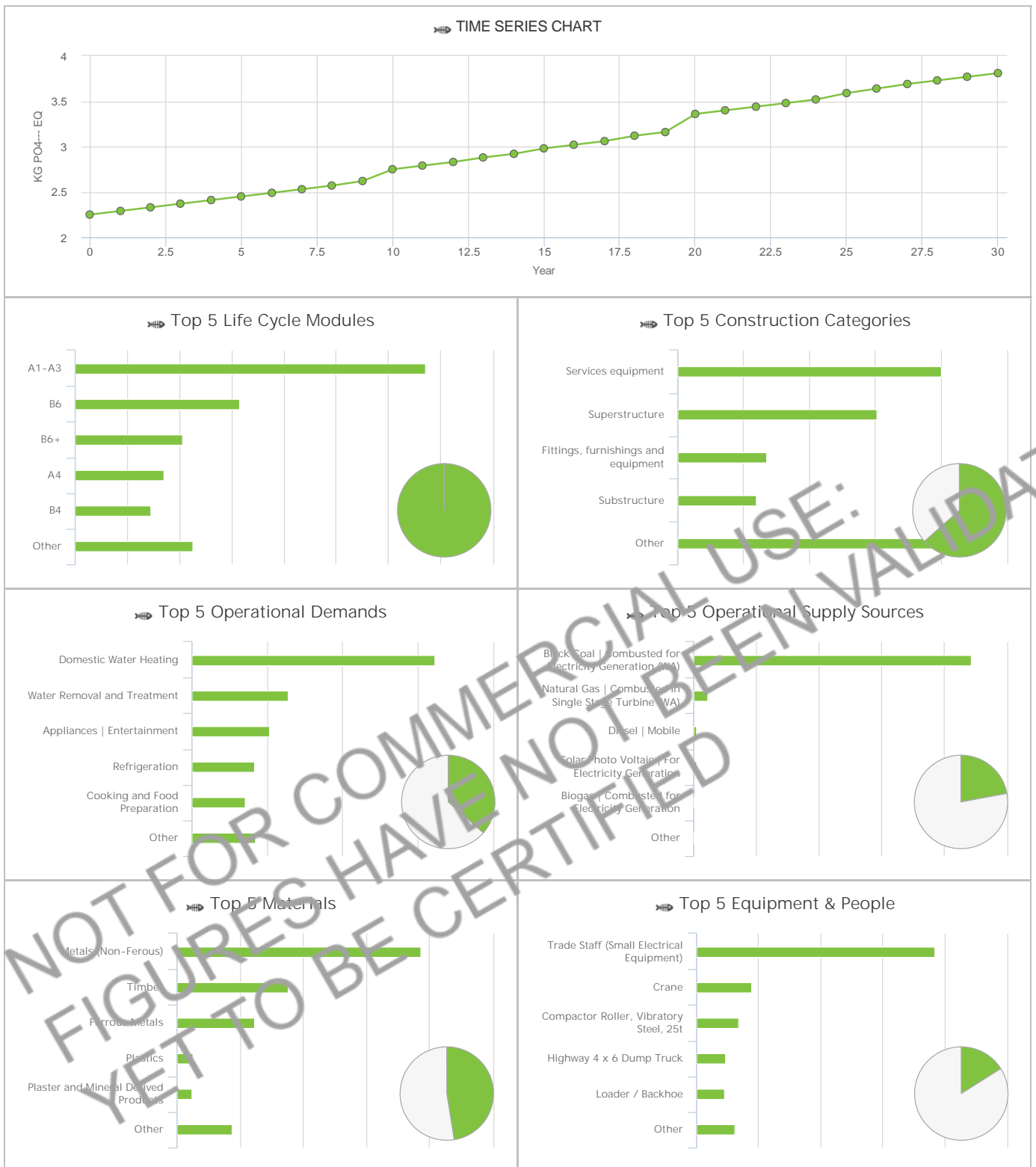


NOT FOR COMMERCIAL USE: FIGURES HAVE NOT BEEN VALIDATED YET TO BE CERTIFIED



6.4 Eutrophication potential, EP Profile

■ Final Design

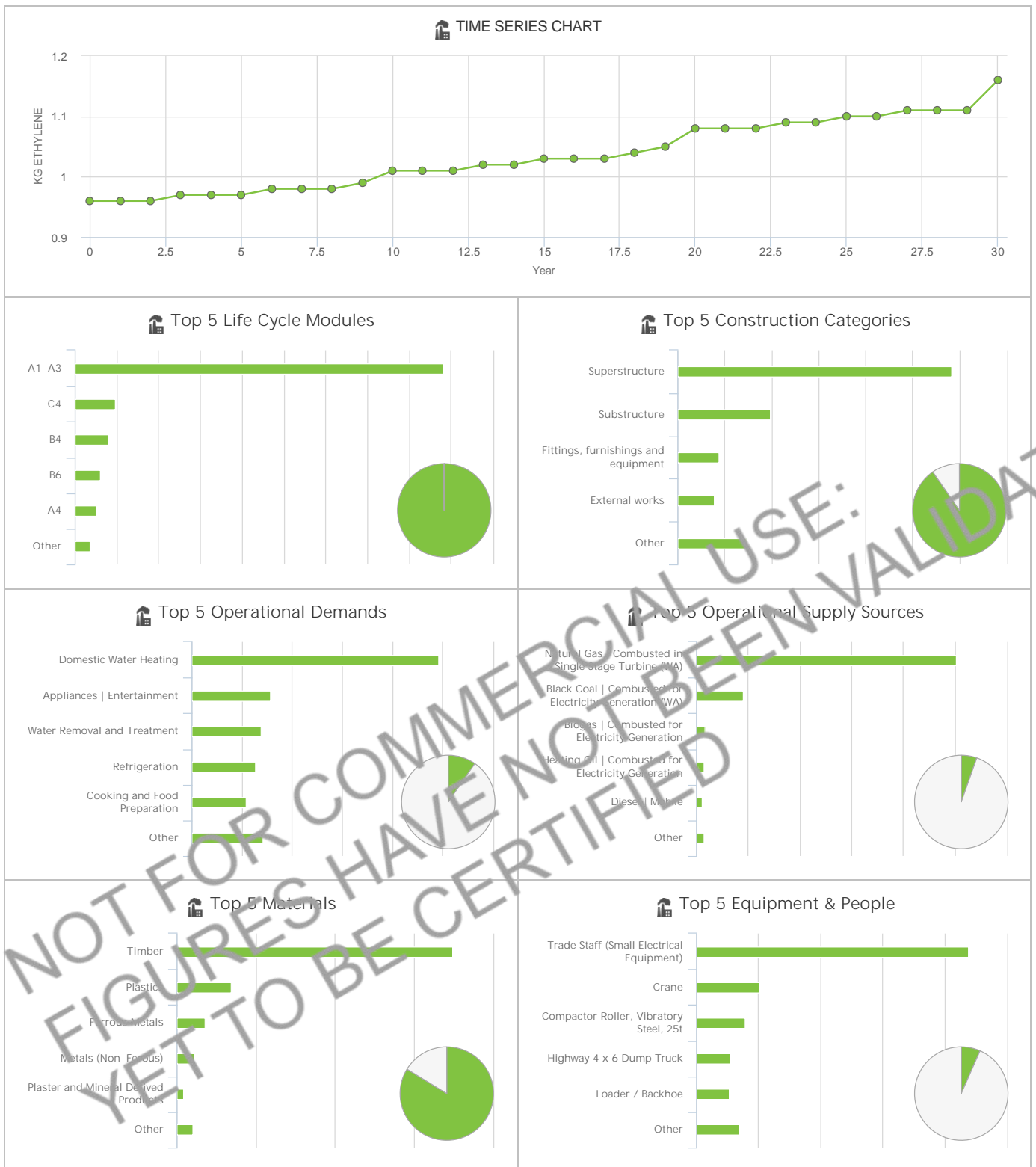


NOT FOR COMMERCIAL USE: FIGURES HAVE NOT BEEN VALIDATED YET TO BE CERTIFIED



6.5 Photochemical Ozone Creation Potential, POCP Profile

■ Final Design

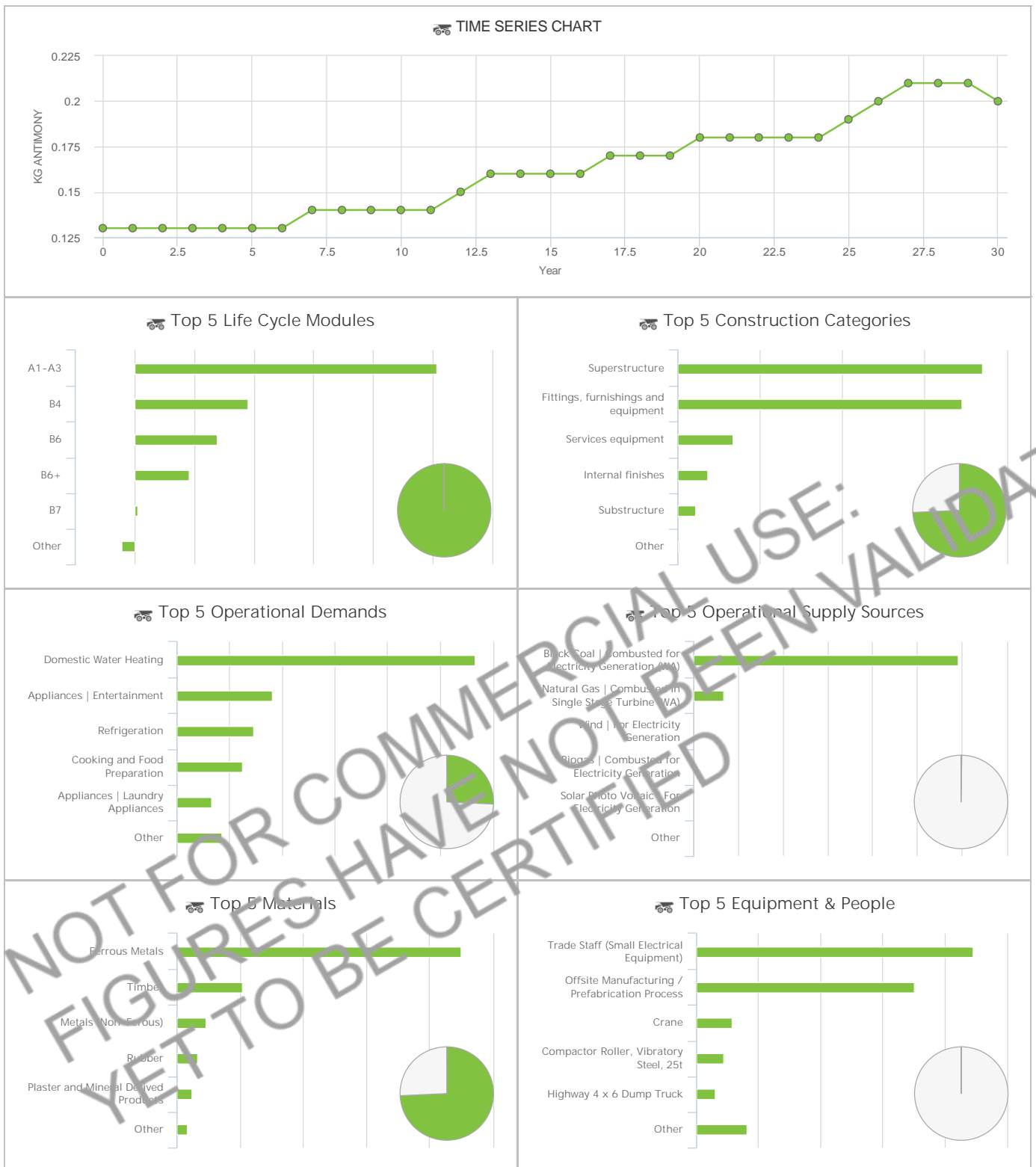


NOT FOR COMMERCIAL USE: FIGURES HAVE NOT BEEN VALIDATED YET TO BE CERTIFIED



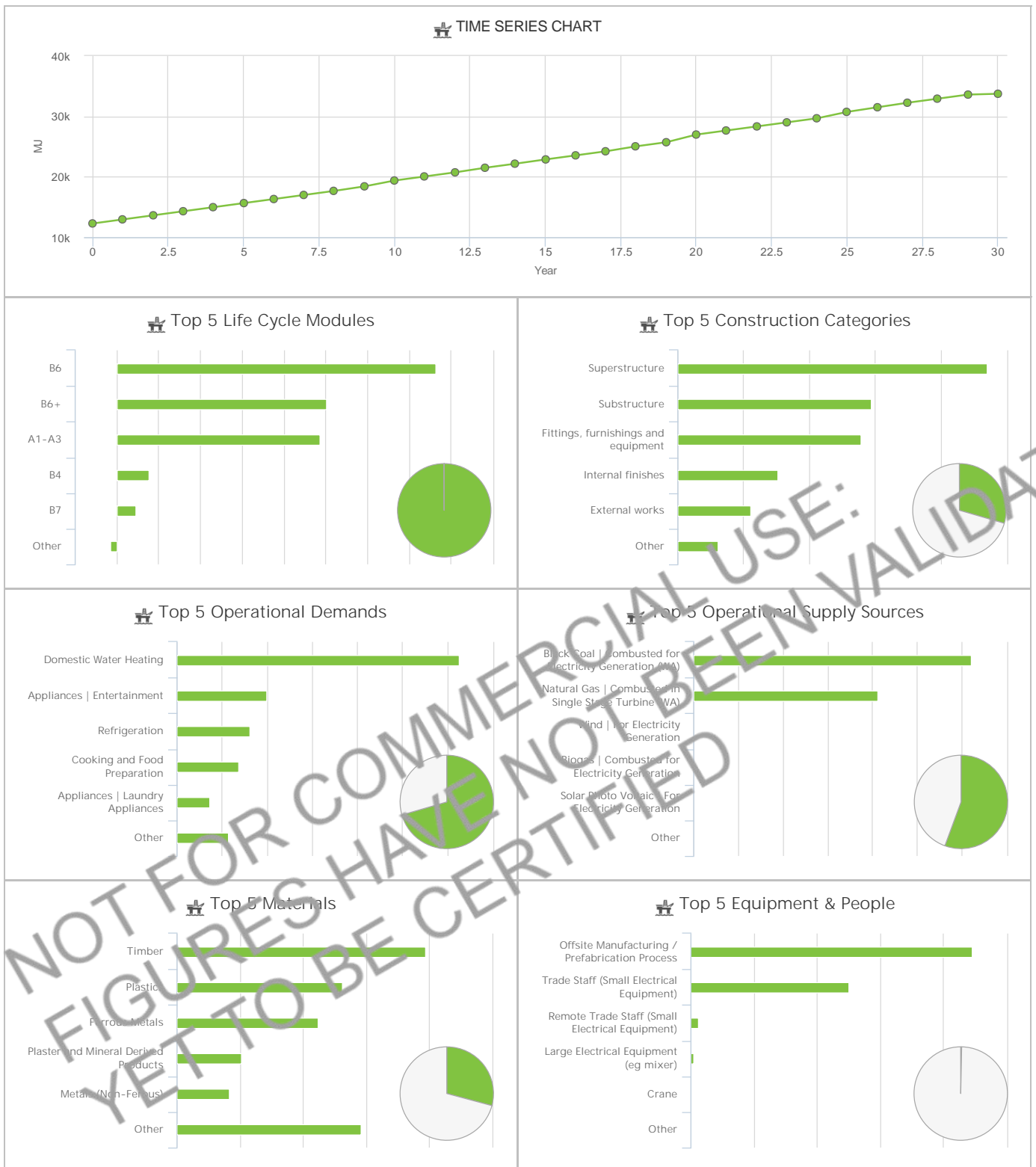
6.6 Abiotic Depletion Potential - Elements, ADPE Profile

■ Final Design



6.7 Abiotic Depletion Potential - Fossil Fuels, ADPF Profile

■ Final Design

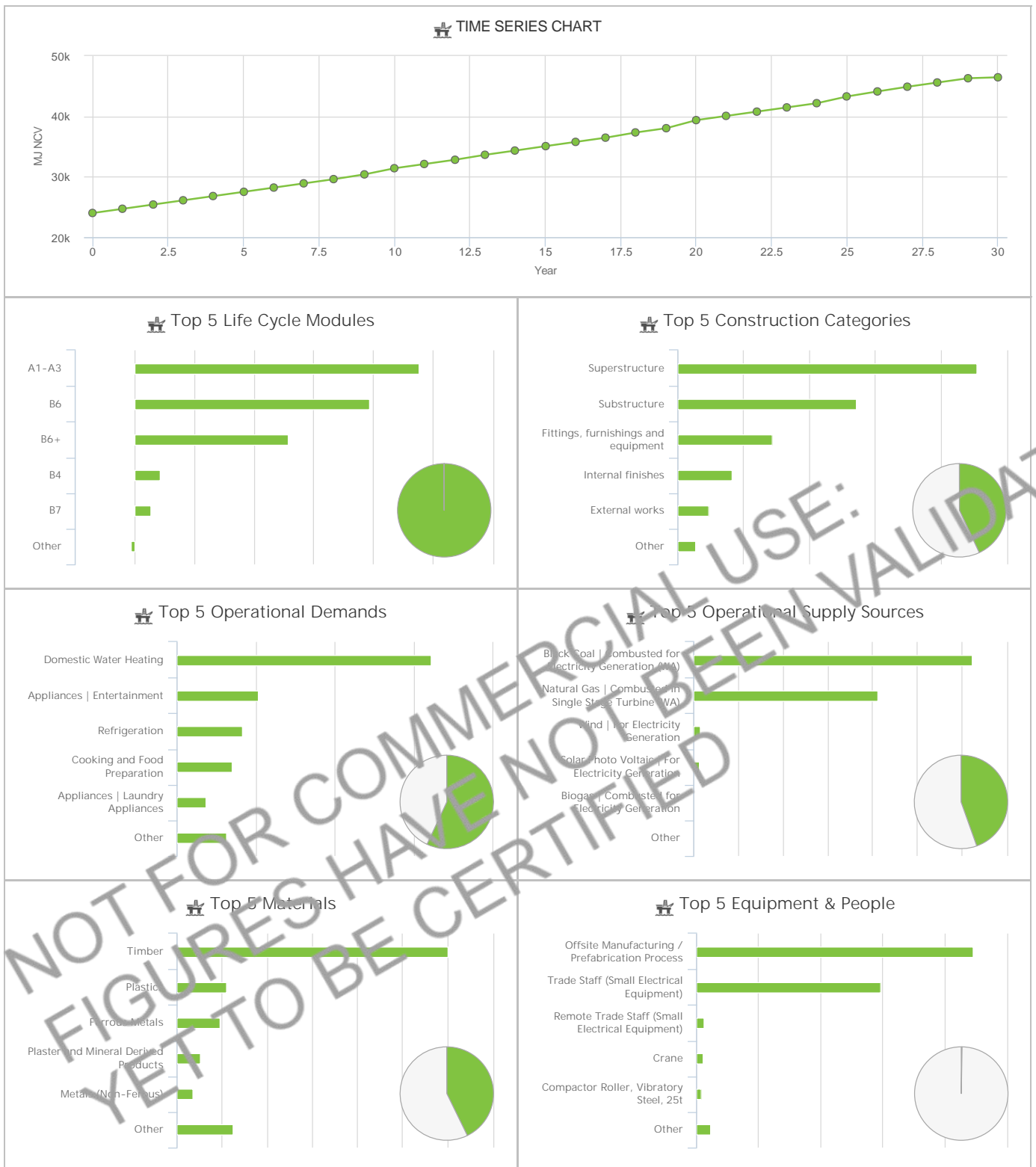


NOT FOR COMMERCIAL USE: FIGURES HAVE NOT BEEN VALIDATED YET TO BE CERTIFIED



6.8 Embodied Energy Profile

■ Final Design



NOT FOR COMMERCIAL USE: FIGURES HAVE NOT BEEN VALIDATED YET TO BE CERTIFIED



7 Low Impact Strategies

The following potential low impact design strategies were modelled in the LCA study to determine the relative benefits and aid the design decision making process.

For each design strategy, the relative savings for all indicators is provided and given in context to the other strategies. A basic description of the strategy is also provided.

NOT FOR COMMERCIAL USE:
FIGURES HAVE NOT BEEN VALIDATED
YET TO BE CERTIFIED



7 Conclusions

The majority of impacts were found to be caused during the Materials and Construction (Module A) which had the highest impacts in 5 of the 26 environmental indicators.

NOT FOR COMMERCIAL USE:
FIGURES HAVE NOT BEEN VALIDATED
YET TO BE CERTIFIED



9 References

9.1 Background LCI Data

Life Cycle Strategies, 2016, Australasian LCI - V11 - Life Cycle Strategies

9.2 Inventory - Design Documentation

No design documents were recorded.

9.3 Inventory - Assumptions

2006, Life Expectancy of Building Components, <https://costmodelling.com/lifespans>, [Web Link](#).

2007, Study of Life Expectancy of Home Components, [Web Link](#).

2013, Truck-mounted concrete pump 47 M5 XXT with optimised boom and innovative support, [Web Link](#).

BlueScope Steel, 2013, Lysaght Products, [Web Link](#).

BlueScope Steel, Colorbond Steel Warranty, Port Kembla, NSW, [Web Link](#).

Ceramics David, Sanitana Shower trays - Square - Ceramics, [Web Link](#).

Cost Modelling, 2012, Typical Life Expectancy of Building Components - Floor & Ceiling Finishes, [Web Link](#).

Cost Modelling, 2012, Typical Life Expectancy of Building Components - Frames & Upper Floors, [Web Link](#).

Cost Modelling, 2012, Typical Life Expectancy of Building Components - Wall Finishes, [Web Link](#).

DEFRA, Energy Saving Trust, 2008, Measurement of Domestic Hot Water Consumption in Dwellings, [Web Link](#).

Energy Saving Trust, DEFRA, 2008, Measurement of Domestic Hot Water Consumption in Dwellings, [Web Link](#).

General Information (Door hinge loads), [Web Link](#).

Graedel T E, 2011, Recycling Rates of Metals, [Web Link](#).

Grant Tim, Pears Alan, 2006, Allocation Issues in Life Cycle Assessment - Benefits of Recycling and the Role of Environmental Rating Schemes,

Home Interiors, Tile Adhesive and Grout Calculator, [Web Link](#).

Malabago Nolasco K., 2016, Refrigerant Recovery and Recycling Machine: An Innovation, Cebu, [Web Link](#).

PACIA, 2007, Plastic Recycling Rates,

Rawlinsons, 2011, Rawlinsons Australian Construction Handbook, Perth,

Reinforcing Steel Bars Weights and Dimensions, [Web Link](#).

The Roofing Professionals, THE DIFFERENCE BETWEEN COLORBOND AND ZINCALUME, [Web Link](#).

Tiles LTP, Tile Coverage Calculator, [Web Link](#).

Villaume Gayle, 2011, 2010 Recycling Data - Australian Packaging Covenant,

Water Corporation (Western Australia), 2009, Perth Residential Water Use Study, Perth, [Web Link](#).

9.4 Environmental Product Declarations

No EPD references were recorded.

NOT FOR COMMERCIAL USE:
FIGURES HAVE NOT BEEN VALIDATED
YET TO BE CERTIFIED



Appendix A: Environmental Indicators Description

Global Warming Potential, GWP

Anthropogenic global warming is caused by an increase of greenhouse gasses (GHG) in the earth's atmosphere. These gasses reflect some of the heat radiated from the earth's surface that would normally escape into space back to the surface of the earth. Overtime this warms the earth. Common GHGs include CO₂, N₂O, CH₄ and volatile organic compounds (VOCs). Global Warming Potential (GWP) is expressed in equivalent GHGs released, usually in kgCO₂e.

Ozone Depletion Potential, ODP

Ozone is formed and depleted naturally in the earth's stratosphere (between 15-40 km above the earth's surface). Halocarbon compounds are persistent synthetic halogen containing organic molecules that can reach the stratosphere leading to more rapid depletion of the ozone. As the ozone in the stratosphere is reduced more of the ultraviolet rays in sunlight can reach the earth's surface where they can cause skin cancer and reduced crop yields. Ozone Depletion Potential (ODP) is expressed in equivalent ozone depleting gasses (normally kgCFC11e).

Acidification Potential for Soil and Water, AP

Acidification is a consequence of acids (and other compounds which can be transformed into acids) being emitted to the atmosphere and subsequently deposited in surface soils and water. Increased acidity can result in negative consequences for flora and fauna in addition to increased corrosion of manmade structures (buildings vehicles etc.). Acidification Potential (AP) is an indicator of such damage and is usually measured in kgSO₂e

Eutrophication potential, EP

Over enrichment of aquatic ecosystems with nutrients leading to increased production of plankton, algae and higher aquatic plants leading to a deterioration of the water quality and a reduction in the value and/or the utilisation of the aquatic ecosystem. Eutrophication is primarily caused by surplus nitrogen and phosphorus. Sources of nutrients include agriculture (fertilisers and manure), aquaculture, municipal wastewater, and nitrogen oxide emissions from fossil fuel combustion.

Photochemical Ozone Creation Potential, POCP

Photochemical Ozone Creation Potential (POCP), commonly known as smog, is toxic to humans in high concentration. Although ozone is protective in the stratosphere at low levels it is problematic from both a health and nuisance perspective. Plant growth is also effected through damaged leaf surfaces and reduced photosynthesis. POCP is formed when sunlight and heat react with Volatile Organic Compounds (VOCs).

Abiotic Depletion Potential - Elements, ADPE

Abiotic Resource Depletion of energy (ADPE) is a measure of the extraction and consumption of primary resources from the earth. Such exploitation reduces resources available to future generations and as such must be managed.

Abiotic Depletion Potential - Fossil Fuels, ADPF

Abiotic Resource Depletion of energy (ARDE) is a measure of the extraction and consumption of non-renewable energy sources (primarily fossil fuels, but also inclusive of other energy sources such as uranium). Primary energy content of non-renewable energy sources including the embodied energy to extract, process and deliver the non renewable fuels, or manufacture, transport and install the renewable generator. Hence there is usually and non-renewable energy content associated with renewable fuels also.

Embodied Energy

Embodied Energy (EE) is a measure of the primary energy content of non-renewable energy sources including the energy required to extract, process and deliver the non renewable fuels, or manufacture, transport and install and maintain a renewable generator (hence there is usually and non-renewable energy content associated with renewable energy sources also).



Appendix B: Detailed Structure Scope Diagram

Key: ✓ In Scope, In Design ✓ In Scope, Not In Design ✓ Partial ✗ Out of Scope

Parent Name	Sub Category Name	Final Design	
Substructure	Substructure	✓	
	Standard foundations	✓	
	Specialist foundations	✓	
	Lowest floor construction	✓	
	Insulation	✓	
	Basement excavation	✓	
	Basement retaining walls	✓	
Superstructure	Frame	✓	
	Frame	✓	
	Upper floors	✓	
	Floors	✓	
	Insulation	✓	
	Balconies	✓	
	Drainage to balconies	✓	
	Roof	✓	
	Roof structure	✓	
	Roof coverings	✓	
	Specialist roof systems	✓	
	Roof drainage	✓	
	Rooflights, skylights and openings	✓	
	Roof features	✓	
	Insulation	✓	
	Stairs and ramps	✓	
	Stair/ramp structures	✓	
	Stair/ramp finishes	✓	
	Stair/ramp balustrades and handrails	✓	
	Ladders/chutes/slides	✓	
	External walls	✓	
	External enclosing walls above ground level	✓	
	Insulation	✓	
	External enclosing walls below ground level	✓	
	Solar/rain screening	✓	
	External soffits	✓	
	Subsidiary walls, balustrades and proprietary balconies	✓	
	Façade access/cleaning systems	✓	
	External Paint, Textures and Renders	✓	
	Windows and external doors	✓	
	External windows	✓	
	Security and Fire Screens	✓	
	External doors	✓	
	Internal walls and partitions	✓	
	Walls and partitions	✓	
	Insulation	✓	
	Balustrades and handrails	✓	
	Moveable room dividers	✓	
	Cubicles	✓	
	Internal doors	✓	
	Internal doors	✓	
	Internal finishes	Wall finishes	✓
		Wall finishes	✓
		Cornices & Shadowlines	✓
		Paint - Walls	✓
		Wet Area Walls	✓
		Floor finishes	✓
Finishes to floors		✓	
Wet Area Floors		✓	
Raised access floors	✓		

NOT FOR COMMERCIAL USE:
 FIGURES HAVE NOT BEEN VALIDATED
 YET TO BE CERTIFIED



Parent Name	Sub Category Name	Final Design
	Ceiling finishes	✓
	Finishes to ceilings	✓
	False ceilings	✓
	Demountable suspended ceilings	✓
Fittings, furnishings and equipment	Fittings, furnishings and equipment	✓
	General fittings, furnishings and equipment	✓
	Domestic kitchen fittings and equipment	✓
	Special purpose fittings, furnishings and equipment	✓
	Signs/notices	✓
	Works of art	✓
	Non-mechanical and non-electrical equipment	✓
	Internal planting	✓
	Bird and vermin control	✓
Services equipment	Sanitary installations	✓
	Sanitary appliances	✓
	Sanitary ancillaries	✓
	Services equipment	✓
	Services equipment	✓
	Disposal installations	✓
	Foul drainage above ground	✓
	Chemical, toxic and industrial liquid waste disposal	✓
	Refuse disposal	✓
	Water installations	✓
	Mains water supply	✓
	Cold water distribution	✓
	Hot water distribution	✓
	Local hot water distribution	✓
	Steam and condensate distribution	✓
	Heat source	✓
	Heat source	✓
	Space heating and air conditioning	✓
	Central heating	✓
	Local heating	✓
	Central cooling	✓
	Local cooling	✓
	Central heating and cooling	✓
	Local heating and cooling	✓
	Central air conditioning	✓
	Local air conditioning	✓
	Ventilation systems	✓
	Central ventilation	✓
	Local and special ventilation	✓
	Smoke extract/control	✓
	Electrical installations	✓
	Electric mains and sub-mains distribution	✓
	Power installations	✓
	Lighting installations	✓
	Specialist lighting installations	✓
	Local electricity generation systems	✓
	Earthing and bonding systems	✓
	Fuel installations	✓
	Fuel storage	✓
	Fuel distribution systems	✓
	Lift and conveyor installations	✓
	Lifts and enclosed hoists	✓
	Escalators	✓
	Moving pavements	✓
	Powered stairlifts	✓
	Conveyors	✓
	Dock levellers and scissor lifts	✓
	Cranes and unenclosed hoists	✓

NOT FOR COMMERCIAL USE:
 FIGURES HAVE NOT BEEN VALIDATED
 YET TO BE CERTIFIED



Parent Name	Sub Category Name	Final Design
	Car lifts, car stacking systems, turntables and the like	✓
	Document handling systems	✓
	Other lift and conveyor installations	✓
	Fire and lightning protection	✓
	Fire-fighting systems	✓
	Fire suppression systems	✓
	Lightning protection	✓
	Communication, security and control systems	✓
	Communication systems	✓
	Security systems	✓
	Central control/building management systems	✓
	Specialist installations	✓
	Specialist piped supply installations	✓
	Specialist refrigeration systems	✓
	Specialist mechanical installations	✓
	Specialist electrical/electronic installations	✓
	Water features	✓
	Civil Engineering Structure	✓
	Builder's Work in Connection (BWIC) with Services	✓
	BWIC with services	✓
Prefabricated buildings and building units	Prefabricated buildings and building units	✗
	Complete buildings	✗
	Building units	✗
	Pods	✗
Work to existing building	Minor demolitions and alterations	✗
	Minor Demolitions and Alterations	✗
	Repairs to existing services	✗
	Repairs to existing services	✗
	Damp proof course/fungus and beetle eradication	✗
	Damp Proof Course/Fungus and Beetle Eradication	✗
	Façade Retention	✗
	Façade Retention	✗
	Cleaning Existing Surfaces	✗
	Cleaning Existing Surfaces	✗
	Renovation work	✗
	Renovation Work	✗
External works	Site preparation works	✓
	Site clearance	✓
	Preparatory ground works	✓
	Roads, paths and pavings	✓
	Roads, paths and pavings	✓
	Special surfacings and pavings	✓
	Soft landscaping, planting and irrigation systems	✓
	Seeding and turfing	✓
	External planting	✓
	Irrigation systems	✓
	Fencing, railings and walls	✓
	Fencing and railings	✓
	Walls and screens	✓
	Retaining walls	✓
	Barriers and guardrails	✓
	External fixtures	✓
	Site/street furniture and equipment	✓
	Ornamental features	✓
	External drainage	✓
	Surface water and foul water drainage	✓
	Ancillary drainage systems	✓
	External chemical, toxic and industrial liquid waste drainage	✓
	Land drainage	✓
	External services	✓

NOT FOR COMMERCIAL USE:
FIGURES HAVE NOT BEEN VALIDATED
YET TO BE CERTIFIED



Parent Name	Sub Category Name	Final Design
	Water mains supply	✓
	Electricity mains supply	✓
	External transformation devices	✓
	Electricity distribution to external plant and equipment	✓
	Gas mains supply	✓
	Telecommunications and other communication system connections	✓
	External fuel storage and piped distribution systems	✓
	External security systems	✓
	External/street lighting systems	✓
	Local/district heating installations	✓
	BWIC with external services	✓
	Minor building works and ancillary buildings	✓
	Minor building works	✓
	Ancillary buildings and structures	✓
	Underpinning to external site boundary walls	✓
Facilitating works	Toxic/hazardous/contaminated material treatment	✗
	Toxic/hazardous material removal	✗
	Contaminated land	✗
	Eradication of plant growth	✗
	Major demolition works	✗
	Demolition works	✗
	Soft strip works	✗
	Temporary support to adjacent structures	✓
	Temporary support to adjacent structures	✓
	Specialist groundworks	✓
	Site dewatering and pumping	✓
	Soil stabilisation measures	✓
	Ground gas venting measures	✗
	Temporary diversion works	✗
	Temporary diversion works	✗
	Extraordinary site investigation	✗
	Archaeological investigation	✗
	Reptile/wildlife mitigation measures	✗
	Other extraordinary site investigation	✗
Project/design team	Consultants	✗
	Planning & Approvals	✗
	Main contractor's pre-construction design	✗
	Project Management	✗
	Main contractor's design	✗
	Sales and Marketing	✗
Undefined		

NOT FOR COMMERCIAL USE:
 FIGURES HAVE NOT BEEN VALIDATED
 YET TO BE CERTIFIED



NOT FOR COMMERCIAL USE:
FIGURES HAVE NOT BEEN VALIDATED
YET TO BE CERTIFIED



Year	FunctionN	Name	Code	Category	Description	Type	Source	Quantity	Unit	Cost
0	1 BED	Wall Finish - Timber Stud 600 centre Plasterboard paint skirting	2.5	Superstructure External walls	Install plasterboards	People	Trade Staff (Small Electrical Equipment)	3.6	hrs	11.15
0	1 BED	Wall Finish - Timber Stud 600 centre Plasterboard paint skirting	2.5	Superstructure External walls	Install plasterboards	People	Trade Staff (Small Electrical Equipment)	3.6	hrs	360.03
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	1.35	hrs	11.15
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	1.35	hrs	135.01
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	1.35	hrs	11.15
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	1.35	hrs	135.01
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.35	hrs	11.15
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.35	hrs	135.01
0	1 BED	Wall Finish - Plaster Cornices (m)	3	Internal finishes	Install cornices and skirting	People	Trade Staff (Small Electrical Equipment)	0.8	hrs	11.15
0	1 BED	Wall Finish - Plaster Cornices (m)	3	Internal finishes	Install cornices and skirting	People	Trade Staff (Small Electrical Equipment)	0.8	hrs	80.01
0	1 BED	Wall Finish - MDF Skirtings (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Install skirting	People	Trade Staff (Small Electrical Equipment)	0.8	hrs	11.15
0	1 BED	Wall Finish - MDF Skirtings (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Install skirting	People	Trade Staff (Small Electrical Equipment)	0.8	hrs	80.01
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	0.16875	hrs	11.15
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	0.16875	hrs	16.88
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	0.16875	hrs	11.15
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	0.16875	hrs	16.88
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	0.16875	hrs	11.15
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	0.16875	hrs	16.88
0	1 BED	External Wall - Framing, 100mm Timber Stud (600mm centres)	2.5	Superstructure External walls	Carpenter Install 2.4m Studs (100x38)	People	Trade Staff (Small Electrical Equipment)	1.38	hrs	11.15
0	1 BED	External Wall - Framing, 100mm Timber Stud (600mm centres)	2.5	Superstructure External walls	Carpenter Install 2.4m Studs (100x38)	People	Trade Staff (Small Electrical Equipment)	1.38	hrs	138.01
0	1 BED	External Wall - Framing, 100mm Timber Stud (600mm centres)	2.5	Superstructure External walls	carpenter install noggins 1 m (100x38mm)	People	Trade Staff (Small Electrical Equipment)	0.7	hrs	11.15
0	1 BED	External Wall - Framing, 100mm Timber Stud (600mm centres)	2.5	Superstructure External walls	carpenter install noggins 1 m (100x38mm)	People	Trade Staff (Small Electrical Equipment)	0.7	hrs	70.01
0	1 BED	External Wall - Framing, 100mm Timber Stud (600mm centres)	2.5	Superstructure External walls	Carpenter install plates	People	Trade Staff (Small Electrical Equipment)	1.75	hrs	11.15
0	1 BED	External Wall - Framing, 100mm Timber Stud (600mm centres)	2.5	Superstructure External walls	Carpenter install plates	People	Trade Staff (Small Electrical Equipment)	1.75	hrs	175.02
0	1 BED	Wall Lining - Plasterboard (12mm)	3.1.1	Internal finishes Wall finishes Wall finishes	Install plasterboards	People	Trade Staff (Small Electrical Equipment)	3.6	hrs	11.15
0	1 BED	Wall Lining - Plasterboard (12mm)	3.1.1	Internal finishes Wall finishes Wall finishes	Install plasterboards	People	Trade Staff (Small Electrical Equipment)	3.6	hrs	360.03
0	1 BED	Concrete Foundations 1000x300x400.	1.1	Substructure Substructure	Pour foundations, (50m3/hr)	Equipment	Concrete Pump	0.011916667	hrs	431.48
0	1 BED	Concrete Foundations 1000x300x400.	1.1	Substructure Substructure	Pour foundations, (50m3/hr)	Equipment	Concrete Pump	0.011916667	hrs	3.88
0	1 BED	Concrete Foundations 1000x300x400.	1.1	Substructure Substructure	Concreter	People	Trade Staff (Small Electrical Equipment)	0.183333333	hrs	11.15
0	1 BED	Concrete Foundations 1000x300x400.	1.1	Substructure Substructure	Concreter	People	Trade Staff (Small Electrical Equipment)	0.183333333	hrs	18.34
0	1 BED	Concrete Foundations 1000x300x400.	1.1	Substructure Substructure	Install Rio	People	Trade Staff (Small Electrical Equipment)	0.091666667	hrs	11.15
0	1 BED	Concrete Foundations 1000x300x400.	1.1	Substructure Substructure	Install Rio	People	Trade Staff (Small Electrical Equipment)	0.091666667	hrs	9.17
0	1 BED	Concrete Foundations 1000x300x400.	1.1	Substructure Substructure	Concreter, intall and remove formwork	People	Trade Staff (Small Electrical Equipment)	1.925	hrs	11.15
0	1 BED	Concrete Foundations 1000x300x400.	1.1	Substructure Substructure	Concreter, intall and remove formwork	People	Trade Staff (Small Electrical Equipment)	1.925	hrs	192.52
0	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Refrigerator	People	Trade Staff (Small Electrical Equipment)	0.25	hrs	11.15
0	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Refrigerator	People	Trade Staff (Small Electrical Equipment)	0.25	hrs	25
0	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Manufacture fridge	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	50.25
0	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5	Services equipment	Airconditioning Factory Processes	Equipment	Offsite Manufacturing / Prefabrication Proces	20	hrs	201.01
0	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5	Services equipment	Install Airconditioning Unit	People	Trade Staff (Small Electrical Equipment)	2	hrs	11.15
0	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5	Services equipment	Install Airconditioning Unit	People	Trade Staff (Small Electrical Equipment)	2	hrs	200.02
0	1 BED	HWS - Electric Instantaneous	5	Services equipment	Plumber for HWS installation	People	Trade Staff (Small Electrical Equipment)	4	hrs	11.15
0	1 BED	HWS - Electric Instantaneous	5	Services equipment	Plumber for HWS installation	People	Trade Staff (Small Electrical Equipment)	4	hrs	400.04
0	1 BED	HWS - Electric Instantaneous	5	Services equipment	Hot Water Unit Assembly	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	50.25
0	1 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Cooker	People	Trade Staff (Small Electrical Equipment)	0.2	hrs	11.15
0	1 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Cooker	People	Trade Staff (Small Electrical Equipment)	0.2	hrs	20
0	1 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the cooker	Equipment	Offsite Manufacturing / Prefabrication Proces	20	hrs	201.01
0	1 BED	Lighting Residential CFL Med Natural Light	4	Fittings, furnishings and equipment	Electrician Fit Lights	People	Trade Staff (Small Electrical Equipment)	4.7125	hrs	11.15
0	1 BED	Lighting Residential CFL Med Natural Light	4	Fittings, furnishings and equipment	Electrician Fit Lights	People	Trade Staff (Small Electrical Equipment)	4.7125	hrs	471.3
0	1 BED	Lighting Residential CFL Med Natural Light	4	Fittings, furnishings and equipment	Change Light Bulbs	People	Trade Staff (No Equipment, labour transport d	0.837777778	hrs	11.15
0	1 BED	Lighting Residential CFL Med Natural Light	4	Fittings, furnishings and equipment	Change Light Bulbs	People	Trade Staff (No Equipment, labour transport d	0.837777778	hrs	83.78
0	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	11.15
0	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	75.01
0	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	50.25
0	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	11.15
0	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	75.01
0	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	50.25
0	1 BED	CLT Timber Floor cubic meters (m3)(Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Install timber floor (0.5hrs for 200mm)	People	Remote Trade Staff (Small Electrical Equipme	195	hrs	89.23
0	1 BED	CLT Timber Floor cubic meters (m3)(Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Install timber floor (0.5hrs for 200mm)	People	Remote Trade Staff (Small Electrical Equipme	195	hrs	23401.9
0	1 BED	60mm Insulated Plasterboard (Copy)	2.5	Superstructure External walls	Fit insulated plasterboard	People	Trade Staff (No Travel)	14.4	hrs	1440.14
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter undercoat	People	Trade Staff (Small Electrical Equipment)	10.8	hrs	22.31
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter undercoat	People	Trade Staff (Small Electrical Equipment)	10.8	hrs	1080.1
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	10.8	hrs	22.31
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	10.8	hrs	1080.1
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	10.8	hrs	22.31
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	10.8	hrs	1080.1
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	540.05
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for undercoat	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for undercoat	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	540.05
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	540.05
0	1 BED	Wall, 90mm CLT, Unfinished, m2	2.5	Superstructure External walls	Install wall	People	Trade Staff (Small Electrical Equipment)	46.08	hrs	66.92
0	1 BED	Wall, 90mm CLT, Unfinished, m2	2.5	Superstructure External walls	Install wall	People	Trade Staff (Small Electrical Equipment)	46.08	hrs	4608.44
0	1 BED	Wall, 90mm CLT, Unfinished, m2	2.1	Superstructure Frame	Crane, lift panels into place	Equipment	Crane	14.4	hrs	534.22

0	1	BED	Wall, 90mm CLT, Unfinished, m2	2.1	Superstructure Frame	Crane, lift panels into place	Equipment	Crane	14.4	hrs	16025.8
0	1	BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	Install plasterboard	People	Trade Staff (Small Electrical Equipment)	22.824	hrs	33.46
0	1	BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	Install plasterboard	People	Trade Staff (Small Electrical Equipment)	22.824	hrs	2282.62
0	1	BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	7.1325	hrs	11.15
0	1	BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	7.1325	hrs	713.32
0	1	BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	7.1325	hrs	11.15
0	1	BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	7.1325	hrs	713.32
0	1	BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	7.1325	hrs	11.15
0	1	BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	7.1325	hrs	713.32
0	1	BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	Carpenter, construct and install stairs	People	Trade Staff (Small Electrical Equipment)	24	hrs	33.46
0	1	BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	Carpenter, construct and install stairs	People	Trade Staff (Small Electrical Equipment)	24	hrs	2400.23
0	1	BED	Staircase, Timber	3	Internal finishes	Sand and Finish Timber Stairs	People	Trade Staff (Small Electrical Equipment)	16	hrs	22.31
0	1	BED	Staircase, Timber	3	Internal finishes	Sand and Finish Timber Stairs	People	Trade Staff (Small Electrical Equipment)	16	hrs	1600.15
0	1	BED	Ceiling Fans Embodied	5	Services equipment	Electrician	People	Trade Staff (Small Electrical Equipment)	12	hrs	22.31
0	1	BED	Ceiling Fans Embodied	5	Services equipment	Electrician	People	Trade Staff (Small Electrical Equipment)	12	hrs	1200.12
0	1	BED	Bulk Insulation - 90mm Fibreglass (R2.0)	2.5	Superstructure External walls	install insulation	People	Trade Staff (Small Electrical Equipment)	8.0835	hrs	22.31
0	1	BED	Bulk Insulation - 90mm Fibreglass (R2.0)	2.5	Superstructure External walls	install insulation	People	Trade Staff (Small Electrical Equipment)	8.0835	hrs	808.43
0	1	BED	Clothes dryer Em	4	Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	11.15
0	1	BED	Clothes dryer Em	4	Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	75.01
0	1	BED	Clothes dryer Em	4	Fittings, furnishings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	50.25
0	1	BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3	Superstructure Roof	Offsite manufacture	Equipment	Offsite Manufacturing / Prefabrication Process	5.64344	hrs	56.72
0	1	BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3	Superstructure Roof	Install truss	People	Trade Staff (Small Electrical Equipment)	0.564344	hrs	11.15
0	1	BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3	Superstructure Roof	Install truss	People	Trade Staff (Small Electrical Equipment)	0.564344	hrs	56.44
0	1	BED	Gutter - PVC	2.3	Superstructure Roof	Install gutter (0.34hrs/m)	People	Trade Staff (Small Electrical Equipment)	5.59504	hrs	11.15
0	1	BED	Gutter - PVC	2.3	Superstructure Roof	Install gutter (0.34hrs/m)	People	Trade Staff (Small Electrical Equipment)	5.59504	hrs	559.56
0	1	BED	Covering - Steel Sheetting 0.42mm corrugated	2.3	Superstructure Roof	Install Roofing	People	Trade Staff (Small Electrical Equipment)	9.71872	hrs	22.31
0	1	BED	Covering - Steel Sheetting 0.42mm corrugated	2.3	Superstructure Roof	Install Roofing	People	Trade Staff (Small Electrical Equipment)	9.71872	hrs	971.97
0	1	BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof	Glue foil to glasswool insulation	Equipment	Offsite Manufacturing / Prefabrication Process	2.915616	hrs	29.3
0	1	BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof	Installation in roof	People	Trade Staff (No Equipment, labour transport)	2.551164	hrs	11.15
0	1	BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof	Installation in roof	People	Trade Staff (No Equipment, labour transport)	2.551164	hrs	255.12
0	1	BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3	Superstructure Roof	Offsite manufacture	Equipment	Offsite Manufacturing / Prefabrication Process	5.64344	hrs	56.72
0	1	BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3	Superstructure Roof	Install truss	People	Trade Staff (Small Electrical Equipment)	0.564344	hrs	11.15
0	1	BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3	Superstructure Roof	Install truss	People	Trade Staff (Small Electrical Equipment)	0.564344	hrs	56.44
0	1	BED	Gutter - PVC	2.3	Superstructure Roof	Install gutter (0.34hrs/m)	People	Trade Staff (Small Electrical Equipment)	5.59504	hrs	11.15
0	1	BED	Gutter - PVC	2.3	Superstructure Roof	Install gutter (0.34hrs/m)	People	Trade Staff (Small Electrical Equipment)	5.59504	hrs	559.56
0	1	BED	Covering - Steel Sheetting 0.42mm corrugated	2.3	Superstructure Roof	Install Roofing	People	Trade Staff (Small Electrical Equipment)	9.71872	hrs	22.31
0	1	BED	Covering - Steel Sheetting 0.42mm corrugated	2.3	Superstructure Roof	Install Roofing	People	Trade Staff (Small Electrical Equipment)	9.71872	hrs	971.97
0	1	BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof	Glue foil to glasswool insulation	Equipment	Offsite Manufacturing / Prefabrication Process	2.915616	hrs	29.3
0	1	BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof	Installation in roof	People	Trade Staff (No Equipment, labour transport)	2.551164	hrs	11.15
0	1	BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof	Installation in roof	People	Trade Staff (No Equipment, labour transport)	2.551164	hrs	255.12
0	1	BED	Fire Services Fire sprinkler	5	Services equipment	Install sprinkler	People	Trade Staff (Small Electrical Equipment)	0.4998	hrs	11.15
0	1	BED	Fire Services Fire sprinkler	5	Services equipment	Install sprinkler	People	Trade Staff (Small Electrical Equipment)	0.4998	hrs	49.98
0	1	BED	Fire Services Fire sprinkler	5	Services equipment	Manufactur sprinkler	Equipment	Offsite Manufacturing / Prefabrication Process	1.00002	hrs	10.05
0	1	BED	Balustrade, Steel End Posts and Steel Rails	2.5	Superstructure External walls	Offsite manufacturing of balustrade	Equipment	Offsite Manufacturing / Prefabrication Process	13.4	hrs	134.67
0	1	BED	Balustrade, Steel End Posts and Steel Rails	2.5	Superstructure External walls	Install Balustrade	People	Trade Staff (Small Electrical Equipment)	40.2	hrs	66.92
0	1	BED	Balustrade, Steel End Posts and Steel Rails	2.5	Superstructure External walls	Install Balustrade	People	Trade Staff (Small Electrical Equipment)	40.2	hrs	4020.39
0	1	BED	Shower unit	5.1	Services equipment Sanitary installations	Plumber fit shower base	People	Trade Staff (Small Electrical Equipment)	2	hrs	11.15
0	1	BED	Shower unit	5.1	Services equipment Sanitary installations	Plumber fit shower base	People	Trade Staff (Small Electrical Equipment)	2	hrs	200.02
0	1	BED	Shower unit	5.1	Services equipment Sanitary installations	Plumber to fit shower tap combination set	People	Trade Staff (Small Electrical Equipment)	1	hrs	11.15
0	1	BED	Shower unit	5.1	Services equipment Sanitary installations	Plumber to fit shower tap combination set	People	Trade Staff (Small Electrical Equipment)	1	hrs	100.01
0	1	BED	Shower unit	5.1	Services equipment Sanitary installations	Fit shower enclosure	People	Trade Staff (Small Electrical Equipment)	3	hrs	11.15
0	1	BED	Shower unit	5.1	Services equipment Sanitary installations	Fit shower enclosure	People	Trade Staff (Small Electrical Equipment)	3	hrs	300.03
0	1	BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber Lay PVC waste water pipework	People	Trade Staff (Small Electrical Equipment)	0.3	hrs	11.15
0	1	BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber Lay PVC waste water pipework	People	Trade Staff (Small Electrical Equipment)	0.3	hrs	30
0	1	BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber lay copper pipe water supply	People	Trade Staff (Small Electrical Equipment)	0.11	hrs	11.15
0	1	BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber lay copper pipe water supply	People	Trade Staff (Small Electrical Equipment)	0.11	hrs	11
0	1	BED	WC	5.1	Services equipment Sanitary installations	Plumber fit WC	People	Trade Staff (Small Electrical Equipment)	2.75	hrs	11.15
0	1	BED	WC	5.1	Services equipment Sanitary installations	Plumber fit WC	People	Trade Staff (Small Electrical Equipment)	2.75	hrs	275.03
0	1	BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber Lay PVC waste water pipework	People	Trade Staff (Small Electrical Equipment)	0.3	hrs	11.15
0	1	BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber Lay PVC waste water pipework	People	Trade Staff (Small Electrical Equipment)	0.3	hrs	30
0	1	BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber lay copper pipe water supply	People	Trade Staff (Small Electrical Equipment)	0.11	hrs	11.15
0	1	BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber lay copper pipe water supply	People	Trade Staff (Small Electrical Equipment)	0.11	hrs	11
0	1	BED	Wall Basin/sink (ceramic)	5.1	Services equipment Sanitary installations	Plumber fit tap set	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	11.15
0	1	BED	Wall Basin/sink (ceramic)	5.1	Services equipment Sanitary installations	Plumber fit tap set	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	50
0	1	BED	Wall Basin/sink (ceramic)	5.1	Services equipment Sanitary installations	Plumber fix wall basin	People	Trade Staff (Small Electrical Equipment)	2	hrs	11.15
0	1	BED	Wall Basin/sink (ceramic)	5.1	Services equipment Sanitary installations	Plumber fix wall basin	People	Trade Staff (Small Electrical Equipment)	2	hrs	200.02
0	1	BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber Lay PVC waste water pipework	People	Trade Staff (Small Electrical Equipment)	0.3	hrs	11.15
0	1	BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber Lay PVC waste water pipework	People	Trade Staff (Small Electrical Equipment)	0.3	hrs	30
0	1	BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber lay copper pipe water supply	People	Trade Staff (Small Electrical Equipment)	0.11	hrs	11.15
0	1	BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber lay copper pipe water supply	People	Trade Staff (Small Electrical Equipment)	0.11	hrs	11
0	1	BED	Door - SolidCoreTimber/AluminiumJam/Painted (m2)	2.5	Superstructure External walls	Installation of Door (3 hinges)	People	Trade Staff (Small Electrical Equipment)	0.515873016	hrs	11.15
0	1	BED	Door - SolidCoreTimber/AluminiumJam/Painted (m2)	2.5	Superstructure External walls	Installation of Door (3 hinges)	People	Trade Staff (Small Electrical Equipment)	0.515873016	hrs	51.59
0	1	BED	Door - SolidCoreTimber/AluminiumJam/Painted (m2)	2.5	Superstructure External walls	Fixing of door frame (metal)	People	Trade Staff (Small Electrical Equipment)	0.619047619	hrs	11.15
0	1	BED	Door - SolidCoreTimber/AluminiumJam/Painted (m2)	2.5	Superstructure External walls	Fixing of door frame (metal)	People	Trade Staff (Small Electrical Equipment)	0.619047619	hrs	61.91
0	1	BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter undercoat	People	Trade Staff (Small Electrical Equipment)	0.2925	hrs	11.15

0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter undercoat	People	Trade Staff (Small Electrical Equipment)	0.2925	hrs	29.25
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	0.2925	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	0.2925	hrs	29.25
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	0.2925	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	0.2925	hrs	29.25
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	0.14625	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	0.14625	hrs	14.63
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for undercoat	People	Trade Staff (Small Electrical Equipment)	0.14625	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for undercoat	People	Trade Staff (Small Electrical Equipment)	0.14625	hrs	14.63
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.14625	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.14625	hrs	14.63
0	1 BED	Double Door, Hollow Core, Steel Jam	2.5	Superstructure External walls	Installation of Door	People	Trade Staff (Small Electrical Equipment)	1	hrs	11.15
0	1 BED	Double Door, Hollow Core, Steel Jam	2.5	Superstructure External walls	Installation of Door	People	Trade Staff (Small Electrical Equipment)	1	hrs	100.01
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	1.512	hrs	11.15
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	1.512	hrs	151.21
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	1.512	hrs	11.15
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	1.512	hrs	151.21
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.512	hrs	11.15
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.512	hrs	151.21
0	1 BED	Door - HollowCoreTimber/WoodenJam/painted	2.5	Superstructure External walls	Installation of Door with 2 hinges	People	Trade Staff (Small Electrical Equipment)	2.6	hrs	11.15
0	1 BED	Door - HollowCoreTimber/WoodenJam/painted	2.5	Superstructure External walls	Installation of Door with 2 hinges	People	Trade Staff (Small Electrical Equipment)	2.6	hrs	260.03
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	0.756	hrs	11.15
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	0.756	hrs	75.61
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	0.756	hrs	11.15
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	0.756	hrs	75.61
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	0.756	hrs	11.15
0	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	0.756	hrs	75.61
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter undercoat	People	Trade Staff (Small Electrical Equipment)	0.504	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter undercoat	People	Trade Staff (Small Electrical Equipment)	0.504	hrs	50.4
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	0.504	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	0.504	hrs	50.4
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	0.504	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	0.504	hrs	50.4
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	0.252	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	0.252	hrs	25.2
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for undercoat	People	Trade Staff (Small Electrical Equipment)	0.252	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for undercoat	People	Trade Staff (Small Electrical Equipment)	0.252	hrs	25.2
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.252	hrs	11.15
0	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.252	hrs	25.2
0	1 BED	Electrical Fittings - Embodied only (sockets/power points/wires etc)	5	Services equipment	Electrician	People	Trade Staff (Small Electrical Equipment)	16	hrs	22.31
0	1 BED	Electrical Fittings - Embodied only (sockets/power points/wires etc)	5	Services equipment	Electrician	People	Trade Staff (Small Electrical Equipment)	16	hrs	1600.15
0	1 BED	Plumbing, Water and Sewerage Connection, Residential	5	Services equipment	Services trench	Equipment	Trench Digger / Dingo	2	hrs	9.29
0	1 BED	Plumbing, Water and Sewerage Connection, Residential	5	Services equipment	Services trench	Equipment	Trench Digger / Dingo	2	hrs	365.72
0	1 BED	Plumbing, Water and Sewerage Connection, Residential	5	Services equipment	Plumber, installation from stret	People	Trade Staff (Small Electrical Equipment)	11	hrs	22.31
0	1 BED	Plumbing, Water and Sewerage Connection, Residential	5	Services equipment	Plumber, installation from stret	People	Trade Staff (Small Electrical Equipment)	11	hrs	1100.11
0	1 BED	Shading, sunshade, commercial, aluminium fins	2.5	Superstructure External walls	install sunshade	People	Trade Staff (Small Electrical Equipment)	12.42	hrs	22.31
0	1 BED	Shading, sunshade, commercial, aluminium fins	2.5	Superstructure External walls	install sunshade	People	Trade Staff (Small Electrical Equipment)	12.42	hrs	1242.12
0	1 BED	Timber Framed Floor - 140mm Elevated Upper Floor (Superstructure)	1.1.3	Substructure Substructure Lowest floor construction	Factory Assembly	Equipment	Offsite Manufacturing / Prefabrication Process	0.005	hrs	0.05
0	1 BED	Timber Framed Floor - 140mm Elevated Upper Floor (Superstructure)	2.1.1	Superstructure Frame Frame	Install upper floor Framing	People	Trade Staff (Small Electrical Equipment)	1.55	hrs	11.15
0	1 BED	Timber Framed Floor - 140mm Elevated Upper Floor (Superstructure)	2.1.1	Superstructure Frame Frame	Install upper floor Framing	People	Trade Staff (Small Electrical Equipment)	1.55	hrs	155.01
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Painter - Undercoat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	11.15
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Painter - Undercoat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	5.8
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Painter - Final Coat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	11.15
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Painter - Final Coat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	5.8
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Carpenter Install Skirting Boards	People	Trade Staff (Small Electrical Equipment)	0.05	hrs	11.15
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Carpenter Install Skirting Boards	People	Trade Staff (Small Electrical Equipment)	0.05	hrs	5
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Plasterer Install Cornices	People	Trade Staff (Small Electrical Equipment)	0.1	hrs	11.15
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Plasterer Install Cornices	People	Trade Staff (Small Electrical Equipment)	0.1	hrs	10
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	Carpenter Install CLT	People	Trade Staff (Small Electrical Equipment)	0.13	hrs	11.15
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	Carpenter Install CLT	People	Trade Staff (Small Electrical Equipment)	0.13	hrs	13
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Painter - Sealer	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	11.15
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Painter - Sealer	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	5.8
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	Painter - Sealer	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	11.15
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	Painter - Sealer	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	5.8
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	Painter - Undercoat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	11.15
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	Painter - Undercoat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	5.8
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	Painter - Final Coat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	11.15
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	Painter - Final Coat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	5.8
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	External Cladding	People	Trade Staff (Small Electrical Equipment)	0.32	hrs	11.15
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	External Cladding	People	Trade Staff (Small Electrical Equipment)	0.32	hrs	32
0		BASE SINGLE MODULE	1.1.1	Substructure Substructure Standard foundations	CONCRETE FOOTING	Material	Concrete Reinforced 1.0% Reinforcement	7.5	m3	3670.91
0		BASE SINGLE MODULE	1.1.1	Substructure Substructure Standard foundations	CONCRETE FOOTING	Material	Concrete Reinforced 1.0% Reinforcement	7.5	m3	1662.12
0		BASE SINGLE MODULE	1.1.1	Substructure Substructure Standard foundations	CONCRETE FOOTING	Material	Concrete Reinforced 1.0% Reinforcement	7.5	m3	75.85
0	1 BED	Wall Finish - Timber Stud 600 centre Plasterboard paint skirting	3.1.1	Internal finishes Wall finishes Wall finishes	Plasterboard 12mm	Material	Plaster and Mineral Derived Products 100%	12	m2 (Default)	124.2
0	1 BED	Wall Finish - Timber Stud 600 centre Plasterboard paint skirting	3.1.1	Internal finishes Wall finishes Wall finishes	Plasterboard 12mm	Material	Plaster and Mineral Derived Products 100%	12	m2 (Default)	7.23

0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Sealer	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	0.11
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Sealer	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	0
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	3.97
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	0.11
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	0
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	3.97
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	0.11
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	0
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Skirting boards	Material	Timber Medium Density Fibreboard (MDF)	0.4167	Count	5.18
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Skirting boards	Material	Timber Medium Density Fibreboard (MDF)	0.4167	Count	0.1
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Skirting boards	Material	Timber Medium Density Fibreboard (MDF)	0.4167	Count	0.02
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Cornices	Material	Plaster and Mineral Derived Products 100%	0.41	Count	0.12
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Cornices	Material	Plaster and Mineral Derived Products 100%	0.41	Count	0.04
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Cornices	Material	Plaster and Mineral Derived Products 100%	0.41	Count	0.01
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Sealer	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	3.97
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Sealer	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	0.11
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Sealer	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	0
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	3.97
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	0.11
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	0
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	3.97
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	0.11
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	0
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes	Plaster Board	Material	Plaster and Mineral Derived Products 100%	1	m2 (Default)	10.35
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes	Plaster Board	Material	Plaster and Mineral Derived Products 100%	1	m2 (Default)	0.6
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes	Plaster Board	Material	Plaster and Mineral Derived Products 100%	1	m2 (Default)	0.33
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5.1	Superstructure External walls External enclosing walls above ground level	Fasteners / nails	Material	Ferrous Metals Steel General Unspecified	0.1	kg	0.49
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5.1	Superstructure External walls External enclosing walls above ground level	Fasteners / nails	Material	Ferrous Metals Steel General Unspecified	0.1	kg	0.01
0	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5.1	Superstructure External walls External enclosing walls above ground level	Fasteners / nails	Material	Ferrous Metals Steel General Unspecified	0.1	kg	0
1	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
1	1 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
1	1 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
1	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
1	1 BED	BASE SINGLE MODULE	15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
1	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
1	1 BED	BASE SINGLE MODULE	15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
1	1 BED	BASE SINGLE MODULE	15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
1	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
1	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
1	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
1	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
1	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
1	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
1	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
1	1 BED	BASE SINGLE MODULE	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
1	1 BED	BASE SINGLE MODULE	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
1	1 BED	BASE SINGLE MODULE	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
1	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
1	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
1	1 BED	BASE SINGLE MODULE	4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
1	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
1	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
1	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
1	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
1	1 BED	BASE SINGLE MODULE	20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
2	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2	1 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2	1 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2	1 BED	BASE SINGLE MODULE	15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
2	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
2	1 BED	BASE SINGLE MODULE	15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
2	1 BED	BASE SINGLE MODULE	15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
2	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
2	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
2	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
2	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
2	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
2	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
2	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
2	1 BED	BASE SINGLE MODULE	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
2	1 BED	BASE SINGLE MODULE	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
2	1 BED	BASE SINGLE MODULE	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
2	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
2	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75

2	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
2	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
2	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
2	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
2	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
2	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
3	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
3	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
3	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
3	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
3	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
3	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
3	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
3	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
3	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
3	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
3	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
3	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
3	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
3	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
3	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
3	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
3	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
3	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
3	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
3	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
3	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
3	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
3	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
3	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
3	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
3	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
4	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
4	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
4	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
4	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
4	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
4	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
4	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
4	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
4	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
4	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
4	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
4	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
4	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
4	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
4	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
4	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
4	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
4	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
4	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
4	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
4	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
4	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
4	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
4	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
4	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
4	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
5	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
5	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
5	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
5	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
5	1 BED	External Works - Sand Bed	8.2.1		External works Roads, paths, paving's and surfacing's Roads, paths and paving's	Sand bed 200mm	Material	Bulk Aggregates Sands and Soils Sand (Com	15	Area Calcul	1978.39
5	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
5	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
5	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
5	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
5	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
5	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
5	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
5	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
5	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
5	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
5	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
5	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23

5	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
5	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
5	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
5	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
5	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
5	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
5	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
5	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
5	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
5	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
6	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
6	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
6	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
6	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6		Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
6	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
6	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
6	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
6	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
6	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
6	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
6	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
6	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
6	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
6	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
6	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
6	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
6	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
6	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
6	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
6	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
6	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
6	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
6	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
6	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
6	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
6	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
7	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
7	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
7	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
7	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6		Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
7	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
7	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
7	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
7	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
7	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
7	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
7	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
7	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
7	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
7	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
7	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
7	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
7	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
7	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
7	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
7	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
7	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
7	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
7	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
7	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
7	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
7	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
8	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
8	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
8	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
8	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int		3	Internal finishes	Painter - Final Coat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	12.72
8	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6		Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
8	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1		Internal finishes Wall finishes Wall finishes Paint - Walls	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	3.08
8	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
8	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
8	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
8	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
8	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
8	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
8	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33

8	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
8	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
8	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
8	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
8	1 BED	BASE SINGLE MODULE	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
8	1 BED	BASE SINGLE MODULE	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
8	1 BED	BASE SINGLE MODULE	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
8	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
8	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
8	1 BED	BASE SINGLE MODULE	4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
8	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
8	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
8	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
8	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
8	1 BED	BASE SINGLE MODULE	20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
9	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	77.55
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	45.23
9	1 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
9	1 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
9	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel General Unspecifie	15.4	kg	70.84
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Zinc	0.02	kg	0.25
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Aluminium Unspecifie	0.39	kg	6.92
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Copper Unspecified	0.92	kg	42.29
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics High Density Polyethylene (HDPE)	0.02	kg	0.23
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polyvinyl Chloride (PVC) PVC Injec	0.66	kg	2.94
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polypropylene Injection Moulding	8.81	kg	147.12
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics ABS Unspecified	0.8	kg	12.66
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel Stainless Unspecifie	7.42	kg	223.18
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1	kg	16.7
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics General Unspecified	1.16	kg	18.39
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Asphalt and Bitumen Asphalt Unspecified	9.5	kg	2.62
9	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1.018	kg	17
9	1 BED	BASE SINGLE MODULE	15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
9	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
9	1 BED	BASE SINGLE MODULE	15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
9	1 BED	BASE SINGLE MODULE	15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
9	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
9	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
9	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
9	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
9	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
9	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
9	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
9	1 BED	BASE SINGLE MODULE	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
9	1 BED	BASE SINGLE MODULE	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
9	1 BED	BASE SINGLE MODULE	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
9	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
9	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
9	1 BED	BASE SINGLE MODULE	4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
9	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
9	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
9	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
9	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
9	1 BED	BASE SINGLE MODULE	20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
10	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.35	hrs	97.44
10	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	0.16875	hrs	18.69
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Refrigerator	People	Trade Staff (Small Electrical Equipment)	0.25	hrs	24.1
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Manufacture fridge	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	33.5
10	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
10	1 BED	HWS - Electric Instantaneous	5	Services equipment	Plumber for HWS installation	People	Trade Staff (Small Electrical Equipment)	4	hrs	274.13
10	1 BED	HWS - Electric Instantaneous	5	Services equipment	Hot Water Unit Assembly	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	33.5
10	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	57.44
10	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	33.5
10	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	10.8	hrs	734.94
10	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	367.47
10	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	7.1325	hrs	482.98
10	1 BED	Clothes dryer Em	4	Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	57.44
10	1 BED	Clothes dryer Em	4	Fittings, furnishings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	33.5
10	1 BED	Fire Services Fire sprinkler	5	Services equipment	Install sprinkler	People	Trade Staff (Small Electrical Equipment)	0.4998	hrs	40.76
10	1 BED	Fire Services Fire sprinkler	5	Services equipment	Manufactur sprinkler	Equipment	Offsite Manufacturing / Prefabrication Proces	1.00002	hrs	6.7
10	1 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
10	1 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
10	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	0.2925	hrs	26.94

10	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.14625	hrs	17.19
10	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.512	hrs	108.25
10	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	0.756	hrs	57.84
10	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	0.504	hrs	41.04
10	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.252	hrs	24.24
10	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	Painter - Final Coat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	11.3
10	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12	m2 (Default)	32.83
10	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	1.5	m2 (Default)	4.1
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Steel General Unspecified	47.55	kg	162.01
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Iron Unspecified	4.56	kg	19.76
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Aluminium Unspecified	2.11	kg	27.74
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Copper Unspecified	2.7	kg	91.93
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Brass	0.17	kg	5.79
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Rubber Synthetic	0.17	kg	0.66
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polypropylene Injection Moulding	0.51	kg	6.31
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics ABS Unspecified	5.07	kg	59.43
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polystyrene Expanded Polystyrene	6.26	kg	77.44
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection	1.01	kg	3.33
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyurethane Unspecified	5.57	kg	68.9
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics General Unspecified	5.07	kg	59.55
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Fibreglass Unspecified	0.08	kg	0.64
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Glass Flat Glass	2.87	kg	50
10	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerant R134	Material	Gases Refrigerants R-134a (HFC-134a)	0.15	kg	8.31
10	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
10	1 BED	HWS - Electric Instantaneous	5.1	Services equipment Sanitary installations	Housing etc	Material	Ferrous Metals Steel General Unspecified	15	kg	51.11
10	1 BED	HWS - Electric Instantaneous	5.1	Services equipment Sanitary installations	Electric Heating Element etc	Material	Metals (Non-Ferous) Copper Unspecified	5	kg	170.25
10	1 BED	HWS - Electric Instantaneous	5.1	Services equipment Sanitary installations	Insulation	Material	Insulation Rigid Foams and Boards Polyurethane	3.29	Count	9.98
10	1 BED	Lighting Residential CFL Med Natural Light	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Globes For Internal Fittings	Material	Finished Products Electrical Goods Light Fittings	0.951925	kg	2.75
10	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Clothes washer	Material	Ferrous Metals Steel General Unspecified	43	kg	146.51
10	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Clothes washer	Material	Ferrous Metals Iron Unspecified	0.4	kg	1.73
10	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Aluminium	Material	Metals (Non-Ferous) Aluminium Unspecified	2.7	kg	35.5
10	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Metals (Non-Ferous) Copper Unspecified	1.2	kg	40.86
10	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Rubber Synthetic	1.1	kg	4.11
10	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Plastics Polypropylene Injection Moulding	9.1	kg	112.57
10	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Plastics Polyvinyl Chloride (PVC) Unspecified	0.5	kg	1.65
10	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Plastics General Unspecified	0.8	kg	9.4
10	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	63.4	m2 (Default)	173.47
10	1 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	2.09
10	1 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	16.34
10	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	3.9	m2 (Default)	10.67
10	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	13.44	m2 (Default)	36.77
10	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	6.72	m2 (Default)	18.39
10	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	6.72	m2 (Default)	18.39
10	1 BED	External Works - Sand Bed	8.2.1	External works Roads, paths, paving's and surfacing's Roads, paths and paving's	Sand bed 200mm	Material	Bulk Aggregates Sands and Soils Sand (Commercial)	15	Area Calculated	1978.39
10	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	2.74
10	1 BED	BASE SINGLE MODULE	15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
10	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
10	1 BED	BASE SINGLE MODULE	15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
10	1 BED	BASE SINGLE MODULE	15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
10	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
10	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
10	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
10	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
10	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
10	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
10	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
10	1 BED	BASE SINGLE MODULE	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
10	1 BED	BASE SINGLE MODULE	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
10	1 BED	BASE SINGLE MODULE	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
10	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
10	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
10	1 BED	BASE SINGLE MODULE	4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
10	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
10	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
10	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
10	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
10	1 BED	BASE SINGLE MODULE	20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
11	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
11	1 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
11	1 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
11	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
11	1 BED	BASE SINGLE MODULE	15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
11	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
11	1 BED	BASE SINGLE MODULE	15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
11	1 BED	BASE SINGLE MODULE	15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18

11	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
11	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
11	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
11	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
11	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
11	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
11	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
11	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
11	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
11	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
11	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
11	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
11	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
11	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
11	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
11	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
11	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
11	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
12	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
12	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
12	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
12	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
12	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
12	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
12	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
12	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
12	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
12	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
12	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
12	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
12	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
12	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
12	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
12	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
12	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
12	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
12	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
12	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
12	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
12	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
12	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
12	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
12	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
12	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
13	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
13	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
13	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
13	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
13	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Ceramic glass cooktop	Material	Glass Flat Glass	6	kg	135.88
13	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker casing	Material	Ferrous Metals Steel Stainless Unspecified	43	kg	1245.46
13	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Metals (Non-Ferous) Aluminium Unspecified	0.09	kg	1.54
13	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Paints and Finishes Unspecified 1 Coat	7.2	kg	256.1
13	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Metals (Non-Ferous) Copper Unspecified	0.18	kg	7.97
13	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Insulation Blankets and Batts Mineral Wool	1.1	kg	14.89
13	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Plastics Polyvinyl Chloride (PVC) PVC Inject	0.12	kg	0.51
13	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Metals (Non-Ferous) Zinc	0.2	kg	2.47
13	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Plastics Polystyrene Expanded Polystyrene	1	kg	16.08
13	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Plant Based Products (non Timber) Paper G	4	kg	10.64
13	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
13	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
13	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
13	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
13	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
13	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
13	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
13	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
13	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
13	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
13	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
13	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
13	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
13	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
13	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
13	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
13	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8

13	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
13	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
13	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
13	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
13	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
14	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
14	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
14	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
14	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
14	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
14	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
14	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
14	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
14	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
14	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
14	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
14	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
14	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
14	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
14	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
14	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
14	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
14	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
14	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
14	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
14	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
14	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
14	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
14	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
14	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
14	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
15	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
15	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Cooker	People	Trade Staff (Small Electrical Equipment)	0.2	hrs	15.58
15	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the cooker	Equipment	Offsite Manufacturing / Prefabrication Proces	20	hrs	100.5
15	1 BED	Lighting Residential CFL Med Natural Light		4	Fittings, furnishings and equipment	Electrician Fit Lights	People	Trade Staff (Small Electrical Equipment)	4.7125	hrs	241.22
15	1 BED	Lighting Residential CFL Med Natural Light		4	Fittings, furnishings and equipment	Change Light Bulbs	People	Trade Staff (No Equipment, labour transport d	0.837777778	hrs	48.1
15	1 BED	Staircase, Timber		3	Internal finishes	Sand and Finish Timber Stairs	People	Trade Staff (Small Electrical Equipment)	16	hrs	811.23
15	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
15	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
15	1 BED	Wall Basin/sink (ceramic)		5.1	Services equipment Sanitary installations	Plumber fit tap set	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	30.58
15	1 BED	Electrical Fittings - Embodied only (sockets/power points/wires etc)		5	Services equipment	Electrician	People	Trade Staff (Small Electrical Equipment)	16	hrs	811.23
15	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int		3	Internal finishes	Painter - Undercoat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	8.48
15	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int		2.5	Superstructure External walls	Painter - Undercoat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	8.48
15	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
15	1 BED	Lighting Residential CFL Med Natural Light	4.1.1		Fittings, furnishings and equipment General fittings, furnishings and equipment	Light fitting	Material	Ferrous Metals Steel Coated Sheet Zinc	2.8275	kg	37.18
15	1 BED	Lighting Residential CFL Med Natural Light	4.1.1		Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Glass Flat Glass	1.41375	kg	18.47
15	1 BED	Staircase, Timber	3.2.1		Internal finishes Floor finishes Finishes to floors	Floor finish	Material	Paints and Finishes Wood Stains and Finishe	6.6	m2 (Defaul	16.25
15	1 BED	Wall Basin/sink (ceramic)		4.1	Fittings, furnishings and equipment	Taps (0.5kg each)	Material	Ferrous Metals Steel Stainless Unspecifi	1	kg	16.71
15	1 BED	Electrical Fittings - Embodied only (sockets/power points/wires etc)	4.1.1		Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Plastics General Unspecified	1	kg	8.81
15	1 BED	External Works - Sand Bed	8.2.1		External works Roads, paths, paving's and surfacing's Roads, paths and paving's	Sand bed 200mm	Material	Bulk Aggregates Sands and Soils Sand (Com	15	Area Calcul	1978.39
15	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1		Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Defaul	2.05
15	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int		2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Defaul	2.05
15	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
15	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
15	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
15	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
15	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
15	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
15	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
15	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
15	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
15	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
15	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
15	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
15	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
15	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
15	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
15	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
15	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
15	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
15	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
15	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
15	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
15	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
16	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16

16	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
16	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
16	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int		3	Internal finishes	Painter - Final Coat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	12.72
16	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
16	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1		Internal finishes Wall finishes Wall finishes Paint - Walls	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Defaul	3.08
16	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
16	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
16	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
16	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
16	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
16	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
16	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
16	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
16	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
16	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
16	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
16	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
16	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
16	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
16	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
16	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
16	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
16	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
16	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
16	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
16	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
16	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
17	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
17	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
17	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
17	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
17	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
17	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
17	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
17	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
17	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
17	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
17	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
17	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
17	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
17	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
17	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
17	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
17	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
17	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
17	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
17	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
17	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
17	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
17	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
17	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
17	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
17	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
18	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	77.55
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	45.23
18	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
18	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
18	1 BED	Internal Finish - Paint (standard)	3.1.1		Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecifie	0.12	kg	0.36
18	1 BED	Internal Finish - Paint (standard)	3.1.1		Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecifie	0.015	kg	0.04
18	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel General Unspecifie	15.4	kg	70.84
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Zinc	0.02	kg	0.25
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Aluminium Unspecified	0.39	kg	6.92
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Copper Unspecified	0.92	kg	42.29
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics High Density Polyethylene (HDPE)	0.02	kg	0.23
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polyvinyl Chloride (PVC) PVC Injec	0.66	kg	2.94
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polypropylene Injection Moulding	8.81	kg	147.12
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics ABS Unspecified	0.8	kg	12.66
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel Stainless Unspecifie	7.42	kg	223.18
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1	kg	16.7
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics General Unspecified	1.16	kg	18.39
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Asphalt and Bitumen Asphalt Unspecified	9.5	kg	2.62
18	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1.018	kg	17
18	1 BED	Internal Finish - Paint (standard)	3.1.1		Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecifie	0.634	kg	1.89

18	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Consumables (Paint tins, rollers, etc)	Material	Ferrous Metals Steel General Unspecifie	0.039	kg	0.12
18	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecifie	0.1344	kg	0.4
18	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecifie	0.0672	kg	0.2
18	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Consumables (Paint tins, rollers, etc)	Material	Ferrous Metals Steel General Unspecifie	0.0672	kg	0.2
18	1 BED	BASE SINGLE MODULE	15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
18	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
18	1 BED	BASE SINGLE MODULE	15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
18	1 BED	BASE SINGLE MODULE	15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
18	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
18	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
18	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
18	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
18	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
18	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
18	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
18	1 BED	BASE SINGLE MODULE	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
18	1 BED	BASE SINGLE MODULE	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
18	1 BED	BASE SINGLE MODULE	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
18	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
18	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
18	1 BED	BASE SINGLE MODULE	4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
18	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
18	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
18	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
18	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
18	1 BED	BASE SINGLE MODULE	20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
19	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
19	1 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
19	1 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
19	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
19	1 BED	BASE SINGLE MODULE	15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
19	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
19	1 BED	BASE SINGLE MODULE	15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
19	1 BED	BASE SINGLE MODULE	15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
19	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
19	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
19	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
19	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
19	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
19	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
19	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
19	1 BED	BASE SINGLE MODULE	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
19	1 BED	BASE SINGLE MODULE	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
19	1 BED	BASE SINGLE MODULE	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
19	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
19	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
19	1 BED	BASE SINGLE MODULE	4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
19	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
19	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
19	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
19	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
19	1 BED	BASE SINGLE MODULE	20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
20	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	1.35	hrs	97.44
20	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.35	hrs	97.44
20	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	0.16875	hrs	18.69
20	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	0.16875	hrs	18.69
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Refrigerator	People	Trade Staff (Small Electrical Equipment)	0.25	hrs	24.1
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Manufacture fridge	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	33.5
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5	Services equipment	Airconditioning Factory Processes	Equipment	Offsite Manufacturing / Prefabrication Proces	20	hrs	134
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5	Services equipment	Install Airconditioning Unit	People	Trade Staff (Small Electrical Equipment)	2	hrs	140.78
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
20	1 BED	HWS - Electric Instantaneous	5	Services equipment	Plumber for HWS installation	People	Trade Staff (Small Electrical Equipment)	4	hrs	274.13
20	1 BED	HWS - Electric Instantaneous	5	Services equipment	Hot Water Unit Assembly	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	33.5
20	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	57.44
20	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	33.5
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	10.8	hrs	734.94
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	10.8	hrs	734.94
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	367.47
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	367.47
20	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	7.1325	hrs	482.98
20	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	7.1325	hrs	482.98
20	1 BED	Clothes dryer Em	4	Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	57.44
20	1 BED	Clothes dryer Em	4	Fittings, furnishings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	33.5
20	1 BED	Fire Services Fire sprinkler	5	Services equipment	Install sprinkler	People	Trade Staff (Small Electrical Equipment)	0.4998	hrs	40.76
20	1 BED	Fire Services Fire sprinkler	5	Services equipment	Manufactur sprinkler	Equipment	Offsite Manufacturing / Prefabrication Proces	1.00002	hrs	6.7

20	1 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
20	1 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	0.2925	hrs	26.94
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	0.2925	hrs	26.94
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	0.14625	hrs	17.19
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.14625	hrs	17.19
20	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	1.512	hrs	108.25
20	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.512	hrs	108.25
20	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	0.756	hrs	57.84
20	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	0.756	hrs	57.84
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	0.504	hrs	41.04
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	0.504	hrs	41.04
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	0.252	hrs	24.24
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.252	hrs	24.24
20	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	Painter - Final Coat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	11.3
20	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12	m2 (Default)	32.83
20	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	12	m2 (Default)	32.83
20	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	1.5	m2 (Default)	4.1
20	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1.5	m2 (Default)	4.1
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Steel General Unspecified	47.55	kg	162.01
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Iron Unspecified	4.56	kg	19.76
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Aluminium Unspecified	2.11	kg	27.74
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Copper Unspecified	2.7	kg	91.93
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Brass	0.17	kg	5.79
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Rubber Synthetic	0.17	kg	0.66
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polypropylene Injection Moulding	0.51	kg	6.31
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics ABS Unspecified	5.07	kg	59.43
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polystyrene Expanded Polystyrene	6.26	kg	77.44
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	1.01	kg	3.33
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyurethane Unspecified	5.57	kg	68.9
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics General Unspecified	5.07	kg	59.55
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Fibreglass Unspecified	0.08	kg	0.64
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Glass Flat Glass	2.87	kg	50
20	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerant R134	Material	Gases Refrigerants R-134a (HFC-134a)	0.15	kg	8.31
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning External Unit	Material	Ferrous Metals Steel Coated Sheet Zinc Coated	1	kg	17.5
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning External Unit	Material	Metals (Non-Ferous) Copper Unspecified	2.5	kg	85.12
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning External Unit	Material	Ferrous Metals Steel General Unspecified	5	kg	17.04
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning External Unit	Material	Plastics General Unspecified	5	kg	58.73
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning External Unit	Material	Rubber Synthetic	1	kg	3.88
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning External Unit	Material	Ferrous Metals Steel General Unspecified	8	kg	27.26
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning Internal Unit	Material	Plastics General Unspecified	3	kg	35.24
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning Internal Unit	Material	Metals (Non-Ferous) Copper Unspecified	2.5	kg	85.12
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning Internal Unit and Hoses	Material	Rubber Synthetic	5	kg	19.39
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Pipe Insulation	Material	Insulation Rigid Foams and Boards Polyethylene	0.5	kg	0.67
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
20	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	30.59
20	1 BED	HWS - Electric Instantaneous	5.1	Services equipment Sanitary installations	Housing etc	Material	Ferrous Metals Steel General Unspecified	15	kg	51.11
20	1 BED	HWS - Electric Instantaneous	5.1	Services equipment Sanitary installations	Electric Heating Element etc	Material	Metals (Non-Ferous) Copper Unspecified	5	kg	170.25
20	1 BED	HWS - Electric Instantaneous	5.1	Services equipment Sanitary installations	Insulation	Material	Insulation Rigid Foams and Boards Polyurethane	3.29	Count	9.98
20	1 BED	Lighting Residential CFL Med Natural Light	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Globes For Internal Fittings	Material	Finished Products Electrical Goods Light Fixtures	0.951925	kg	2.75
20	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Clothes washer	Material	Ferrous Metals Steel General Unspecified	43	kg	146.51
20	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Clothes washer	Material	Ferrous Metals Iron Unspecified	0.4	kg	1.73
20	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Aluminium	Material	Metals (Non-Ferous) Aluminium Unspecified	2.7	kg	35.5
20	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Metals (Non-Ferous) Copper Unspecified	1.2	kg	40.86
20	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Rubber Synthetic	1.1	kg	4.11
20	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Plastics Polypropylene Injection Moulding	9.1	kg	112.57
20	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Plastics Polyvinyl Chloride (PVC) Unspecified	0.5	kg	1.65
20	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Plastics General Unspecified	0.8	kg	9.4
20	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	63.4	m2 (Default)	173.47
20	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	63.4	m2 (Default)	173.47
20	1 BED	Ceiling Fans Embodied	5.6	Services equipment Space heating and air conditioning	Plastic associated with electrical wire and fittings	Material	Plastics General Unspecified	9	kg	105.71
20	1 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	2.09
20	1 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	16.34
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	3.9	m2 (Default)	10.67
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	3.9	m2 (Default)	10.67
20	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	13.44	m2 (Default)	36.77
20	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	13.44	m2 (Default)	36.77
20	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	6.72	m2 (Default)	18.39
20	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	6.72	m2 (Default)	18.39
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	6.72	m2 (Default)	18.39
20	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	6.72	m2 (Default)	18.39
20	1 BED	External Works - Sand Bed	8.2.1	External works Roads, paths, paving's and surfacing's Roads, paths and paving's	Sand bed 200mm	Material	Bulk Aggregates Sands and Soils Sand (Commercial)	15	Area Calcul	1978.39
20	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	2.74
20	1 BED	BASE SINGLE MODULE	15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
20	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5

20	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General		30.7		4.61
20	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General		120		18
20	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General		120		18
20	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General		180.36		41.33
20	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General		180.36		41.33
20	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General		22.545		5.17
20	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General		22.545		5.17
20	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General		50.045		9.29
20	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General		50.045		9.29
20	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential		6165	MJ/year	111.23
20	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential		2240	MJ/year	40.42
20	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential		23321.55	MJ/year	514.38
20	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential		4822	MJ/year	92.25
20	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential		1607.333333	MJ/year	30.75
20	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential		10277.37931	MJ/year	40.8
20	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential		4045	MJ/year	82.93
20	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential		6077	MJ/year	124.51
20	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential		4055	MJ/year	83.08
20	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential		1732	MJ/year	35.51
20	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential		2100	MJ/year	62.07
21	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)		0.5	hrs	61.16
21	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)		0.0198	hrs	13.13
21	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)		0.18	hrs	29.16
21	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6		Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)		1.44	kg	0.46
21	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General		50		7.5
21	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General		50		7.5
21	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General		30.7		4.61
21	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General		120		18
21	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General		120		18
21	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General		180.36		41.33
21	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General		180.36		41.33
21	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General		22.545		5.17
21	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General		22.545		5.17
21	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General		50.045		9.29
21	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General		50.045		9.29
21	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential		6165	MJ/year	111.23
21	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential		2240	MJ/year	40.42
21	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential		23321.55	MJ/year	514.38
21	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential		4822	MJ/year	92.25
21	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential		1607.333333	MJ/year	30.75
21	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential		10277.37931	MJ/year	40.8
21	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential		4045	MJ/year	82.93
21	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential		6077	MJ/year	124.51
21	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential		4055	MJ/year	83.08
21	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential		1732	MJ/year	35.51
21	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential		2100	MJ/year	62.07
22	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)		0.5	hrs	61.16
22	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)		0.0198	hrs	13.13
22	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)		0.18	hrs	29.16
22	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6		Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)		1.44	kg	0.46
22	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General		50		7.5
22	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General		50		7.5
22	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General		30.7		4.61
22	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General		120		18
22	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General		120		18
22	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General		180.36		41.33
22	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General		180.36		41.33
22	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General		22.545		5.17
22	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General		22.545		5.17
22	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General		50.045		9.29
22	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General		50.045		9.29
22	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential		6165	MJ/year	111.23
22	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential		2240	MJ/year	40.42
22	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential		23321.55	MJ/year	514.38
22	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential		4822	MJ/year	92.25
22	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential		1607.333333	MJ/year	30.75
22	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential		10277.37931	MJ/year	40.8
22	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential		4045	MJ/year	82.93
22	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential		6077	MJ/year	124.51
22	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential		4055	MJ/year	83.08
22	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential		1732	MJ/year	35.51
22	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential		2100	MJ/year	62.07
23	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)		0.5	hrs	61.16
23	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)		0.0198	hrs	13.13
23	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)		0.18	hrs	29.16

23	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
23	1 BED	BASE SINGLE MODULE	15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
23	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
23	1 BED	BASE SINGLE MODULE	15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
23	1 BED	BASE SINGLE MODULE	15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
23	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
23	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
23	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
23	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
23	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
23	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
23	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
23	1 BED	BASE SINGLE MODULE	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
23	1 BED	BASE SINGLE MODULE	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
23	1 BED	BASE SINGLE MODULE	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
23	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
23	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
23	1 BED	BASE SINGLE MODULE	4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
23	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
23	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
23	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
23	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
23	1 BED	BASE SINGLE MODULE	20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
24	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
24	1 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
24	1 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
24	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Painter - Final Coat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	12.72
24	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
24	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default)	3.08
24	1 BED	BASE SINGLE MODULE	15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
24	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
24	1 BED	BASE SINGLE MODULE	15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
24	1 BED	BASE SINGLE MODULE	15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
24	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
24	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
24	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
24	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
24	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
24	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
24	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
24	1 BED	BASE SINGLE MODULE	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
24	1 BED	BASE SINGLE MODULE	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
24	1 BED	BASE SINGLE MODULE	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
24	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
24	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
24	1 BED	BASE SINGLE MODULE	4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
24	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
24	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
24	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
24	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
24	1 BED	BASE SINGLE MODULE	20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
25	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
25	1 BED	Ceiling Fans Embodied	5	Services equipment	Electrician	People	Trade Staff (Small Electrical Equipment)	12	hrs	1018.69
25	1 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
25	1 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
25	1 BED	Shower unit	5.1	Services equipment Sanitary installations	Plumber to fit shower tap combination set	People	Trade Staff (Small Electrical Equipment)	1	hrs	92.64
25	1 BED	Shower unit	5.1	Services equipment Sanitary installations	Fit shower enclosure	People	Trade Staff (Small Electrical Equipment)	3	hrs	259.32
25	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
25	1 BED	Ceiling Fans Embodied	5.6	Services equipment Space heating and air conditioning	Fan rotor and blades	Material	Ferrous Metals Steel General Unspecified	12	kg	51.11
25	1 BED	Shower unit	4.1	Fittings, furnishings and equipment	Showerhead	Material	Ferrous Metals Steel Stainless Unspecified	1	kg	27.85
25	1 BED	Shower unit	4.1	Fittings, furnishings and equipment	Shower screens (2x sides)	Material	Glass Flat Glass	2	Count	1567.87
25	1 BED	External Works - Sand Bed	8.2.1	External works Roads, paths, paving's and surfacing's Roads, paths and paving's	Sand bed 200mm	Material	Bulk Aggregates Sands and Soils Sand (Comp)	15	Area Calcul	1978.39
25	1 BED	BASE SINGLE MODULE	15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
25	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
25	1 BED	BASE SINGLE MODULE	15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
25	1 BED	BASE SINGLE MODULE	15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
25	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
25	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
25	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
25	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
25	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
25	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
25	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
25	1 BED	BASE SINGLE MODULE	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
25	1 BED	BASE SINGLE MODULE	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42

25	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
25	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
25	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
25	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
25	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
25	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
25	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
25	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
25	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
26	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
26	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
26	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
26	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6		Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
26	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Ceramic glass cooktop	Material	Glass Flat Glass	6	kg	135.88
26	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker casing	Material	Ferrous Metals Steel Stainless Unspecified	43	kg	1245.46
26	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Metals (Non-Ferous) Aluminium Unspecified	0.09	kg	1.54
26	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Paints and Finishes Unspecified 1 Coat	7.2	kg	256.1
26	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Metals (Non-Ferous) Copper Unspecified	0.18	kg	7.97
26	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Insulation Blankets and Batts Mineral Wool	1.1	kg	14.89
26	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection	0.12	kg	0.51
26	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Metals (Non-Ferous) Zinc	0.2	kg	2.47
26	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Plastics Polystyrene Expanded Polystyrene	1	kg	16.08
26	1 BED	Cooking Res, stove and oven Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Plant Based Products (non Timber) Paper Cardboard	4	kg	10.64
26	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
26	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
26	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
26	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
26	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
26	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
26	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
26	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
26	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
26	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
26	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
26	1 BED	BASE SINGLE MODULE		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
26	1 BED	BASE SINGLE MODULE		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
26	1 BED	BASE SINGLE MODULE		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
26	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
26	1 BED	BASE SINGLE MODULE		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
26	1 BED	BASE SINGLE MODULE		4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
26	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
26	1 BED	BASE SINGLE MODULE		7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
26	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
26	1 BED	BASE SINGLE MODULE		6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
26	1 BED	BASE SINGLE MODULE		20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
27	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	77.55
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	45.23
27	1 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
27	1 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
27	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6		Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel General Unspecified	15.4	kg	70.84
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Zinc	0.02	kg	0.25
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Aluminium Unspecified	0.39	kg	6.92
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Copper Unspecified	0.92	kg	42.29
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics High Density Polyethylene (HDPE)	0.02	kg	0.23
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection	0.66	kg	2.94
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polypropylene Injection Moulding	8.81	kg	147.12
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics ABS Unspecified	0.8	kg	12.66
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel Stainless Unspecified	7.42	kg	223.18
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1	kg	16.7
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics General Unspecified	1.16	kg	18.39
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Asphalt and Bitumen Asphalt Unspecified	9.5	kg	2.62
27	1 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1.018	kg	17
27	1 BED	BASE SINGLE MODULE		15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
27	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
27	1 BED	BASE SINGLE MODULE		15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
27	1 BED	BASE SINGLE MODULE		15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
27	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
27	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
27	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
27	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
27	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
27	1 BED	BASE SINGLE MODULE		15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
27	1 BED	BASE SINGLE MODULE		16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29

27	1 BED	BASE SINGLE MODULE		3 Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
27	1 BED	BASE SINGLE MODULE		3 Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
27	1 BED	BASE SINGLE MODULE		2 Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
27	1 BED	BASE SINGLE MODULE		5 Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
27	1 BED	BASE SINGLE MODULE		5 Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
27	1 BED	BASE SINGLE MODULE		4 Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
27	1 BED	BASE SINGLE MODULE		7 Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
27	1 BED	BASE SINGLE MODULE		7 Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
27	1 BED	BASE SINGLE MODULE		6 Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
27	1 BED	BASE SINGLE MODULE		6 Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
27	1 BED	BASE SINGLE MODULE		20 Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
28	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
28	1 BED	Fire Services Fire sprinkler		5 Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
28	1 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
28	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
28	1 BED	BASE SINGLE MODULE		15 Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
28	1 BED	BASE SINGLE MODULE		16 Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
28	1 BED	BASE SINGLE MODULE		15 Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
28	1 BED	BASE SINGLE MODULE		15 Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
28	1 BED	BASE SINGLE MODULE		16 Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
28	1 BED	BASE SINGLE MODULE		15 Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
28	1 BED	BASE SINGLE MODULE		16 Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
28	1 BED	BASE SINGLE MODULE		15 Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
28	1 BED	BASE SINGLE MODULE		16 Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
28	1 BED	BASE SINGLE MODULE		15 Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
28	1 BED	BASE SINGLE MODULE		16 Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
28	1 BED	BASE SINGLE MODULE		3 Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
28	1 BED	BASE SINGLE MODULE		3 Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
28	1 BED	BASE SINGLE MODULE		2 Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
28	1 BED	BASE SINGLE MODULE		5 Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
28	1 BED	BASE SINGLE MODULE		5 Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
28	1 BED	BASE SINGLE MODULE		4 Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
28	1 BED	BASE SINGLE MODULE		7 Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
28	1 BED	BASE SINGLE MODULE		7 Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
28	1 BED	BASE SINGLE MODULE		6 Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
28	1 BED	BASE SINGLE MODULE		6 Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
28	1 BED	BASE SINGLE MODULE		20 Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
29	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
29	1 BED	Fire Services Fire sprinkler		5 Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
29	1 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
29	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
29	1 BED	BASE SINGLE MODULE		15 Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
29	1 BED	BASE SINGLE MODULE		16 Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
29	1 BED	BASE SINGLE MODULE		15 Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
29	1 BED	BASE SINGLE MODULE		15 Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
29	1 BED	BASE SINGLE MODULE		16 Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
29	1 BED	BASE SINGLE MODULE		15 Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
29	1 BED	BASE SINGLE MODULE		16 Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
29	1 BED	BASE SINGLE MODULE		15 Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
29	1 BED	BASE SINGLE MODULE		16 Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
29	1 BED	BASE SINGLE MODULE		15 Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
29	1 BED	BASE SINGLE MODULE		16 Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
29	1 BED	BASE SINGLE MODULE		3 Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
29	1 BED	BASE SINGLE MODULE		3 Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
29	1 BED	BASE SINGLE MODULE		2 Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
29	1 BED	BASE SINGLE MODULE		5 Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
29	1 BED	BASE SINGLE MODULE		5 Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
29	1 BED	BASE SINGLE MODULE		4 Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
29	1 BED	BASE SINGLE MODULE		7 Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
29	1 BED	BASE SINGLE MODULE		7 Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
29	1 BED	BASE SINGLE MODULE		6 Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
29	1 BED	BASE SINGLE MODULE		6 Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
29	1 BED	BASE SINGLE MODULE		20 Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07
30	1 BED	Internal Finish - Paint Assembly Only		3 Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	1.35	hrs	48.72
30	1 BED	Internal Finish - Paint Assembly Only		3 Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.35	hrs	97.44
30	1 BED	Internal Finish - Paint Assembly Only		3 Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	0.16875	hrs	9.34
30	1 BED	Internal Finish - Paint Assembly Only		3 Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	0.16875	hrs	18.69
30	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Refrigerator	People	Trade Staff (Small Electrical Equipment)	0.25	hrs	24.1
30	1 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Manufacture fridge	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	33.5
30	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5 Services equipment	Airconditioning Factory Processes	Equipment	Offsite Manufacturing / Prefabrication Proces	20	hrs	67
30	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5 Services equipment	Install Airconditioning Unit	People	Trade Staff (Small Electrical Equipment)	2	hrs	70.39
30	1 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
30	1 BED	HWS - Electric Instantaneous		5 Services equipment	Plumber for HWS installation	People	Trade Staff (Small Electrical Equipment)	4	hrs	274.13
30	1 BED	HWS - Electric Instantaneous		5 Services equipment	Hot Water Unit Assembly	Equipment	Offsite Manufacturing / Prefabrication Proces	5	hrs	33.5
30	1 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Cooker	People	Trade Staff (Small Electrical Equipment)	0.2	hrs	15.58

30	1 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the cooker	Equipment	Offsite Manufacturing / Prefabrication Process	20	hrs	100.5
30	1 BED	Lighting Residential CFL Med Natural Light	4	Fittings, furnishings and equipment	Electrician Fit Lights	People	Trade Staff (Small Electrical Equipment)	4.7125	hrs	241.22
30	1 BED	Lighting Residential CFL Med Natural Light	4	Fittings, furnishings and equipment	Change Light Bulbs	People	Trade Staff (No Equipment, labour transport etc)	0.837777778	hrs	46.83
30	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	57.44
30	1 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
30	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	25.85
30	1 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	15.08
30	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	10.8	hrs	367.47
30	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	10.8	hrs	734.94
30	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	183.74
30	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	367.47
30	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	7.1325	hrs	241.49
30	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	7.1325	hrs	482.98
30	1 BED	Staircase, Timber	3	Internal finishes	Sand and Finish Timber Stairs	People	Trade Staff (Small Electrical Equipment)	16	hrs	811.23
30	1 BED	Ceiling Fans Embodied	5	Services equipment	Electrician	People	Trade Staff (Small Electrical Equipment)	12	hrs	203.74
30	1 BED	Clothes dryer Em	4	Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	57.44
30	1 BED	Clothes dryer Em	4	Fittings, furnishings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
30	1 BED	Fire Services Fire sprinkler	5	Services equipment	Install sprinkler	People	Trade Staff (Small Electrical Equipment)	0.4998	hrs	40.76
30	1 BED	Fire Services Fire sprinkler	5	Services equipment	Manufactur sprinkler	Equipment	Offsite Manufacturing / Prefabrication Process	1.0000	hrs	6.7
30	1 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
30	1 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
30	1 BED	Shower unit	5.1	Services equipment Sanitary installations	Plumber to fit shower tap combination set	People	Trade Staff (Small Electrical Equipment)	1	hrs	18.53
30	1 BED	Shower unit	5.1	Services equipment Sanitary installations	Fit shower enclosure	People	Trade Staff (Small Electrical Equipment)	3	hrs	51.86
30	1 BED	Wall Basin/sink (ceramic)	5.1	Services equipment Sanitary installations	Plumber fit tap set	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	30.58
30	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	0.2925	hrs	13.47
30	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	0.2925	hrs	26.94
30	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	0.14625	hrs	8.59
30	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.14625	hrs	17.19
30	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	1.512	hrs	54.12
30	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.512	hrs	108.25
30	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	0.756	hrs	28.92
30	1 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	0.756	hrs	57.84
30	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	0.504	hrs	20.52
30	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	0.504	hrs	41.04
30	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	0.252	hrs	12.12
30	1 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.252	hrs	24.24
30	1 BED	Electrical Fittings - Embodied only (sockets/power points/wires etc)	5	Services equipment	Electrician	People	Trade Staff (Small Electrical Equipment)	16	hrs	811.23
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Painter - Undercoat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	8.48
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3	Internal finishes	Painter - Final Coat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	12.72
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	Painter - Undercoat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	8.48
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls	Painter - Final Coat	People	Trade Staff (Small Electrical Equipment)	0.058	hrs	11.3
30	1 BED	BASE SINGLE MODULE	1.1.1	Substructure Substructure Standard foundations	CONCRETE FOOTING	Material	Concrete Reinforced 1.0% Reinforcement	7.5	m3	758.55
30	1 BED	Wall Finish - Timber Stud 600 centre Plasterboard paint skirting	3.1.1	Internal finishes Wall finishes Wall finishes	Plasterboard 12mm	Material	Plaster and Mineral Derived Products 100%	12	m2 (Default)	5.9
30	1 BED	Wall Finish - Timber Stud 600 centre Plasterboard paint skirting	3.1.1	Internal finishes Wall finishes Wall finishes	Plasterboard 12mm	Material	Plaster and Mineral Derived Products 100%	12	m2 (Default)	20.52
30	1 BED	Wall Finish - Timber Stud 600 centre Plasterboard paint skirting	3.1.1	Internal finishes Wall finishes Wall finishes	Fasteners and Nails	Material	Ferrous Metals Steel General Unspecified	0.06	kg	0
30	1 BED	Wall Finish - Timber Stud 600 centre Plasterboard paint skirting	3.1.1	Internal finishes Wall finishes Wall finishes	Fasteners and Nails	Material	Ferrous Metals Steel General Unspecified	0.06	kg	0
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12	m2 (Default)	32.83
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12	m2 (Default)	0.05
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12	m2 (Default)	0.18
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.12	kg	0.26
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.12	kg	0.01
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.12	kg	0
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	12	m2 (Default)	0.05
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	12	m2 (Default)	0.18
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	12	m2 (Default)	16.42
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	12	m2 (Default)	0.05
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	12	m2 (Default)	0.18
30	1 BED	Wall Finish - Plaster Cornices (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Cornices 25mm x 200mm	Material	Plaster and Mineral Derived Products 100%	1	Area Calcul	1.21
30	1 BED	Wall Finish - Plaster Cornices (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Cornices 25mm x 200mm	Material	Plaster and Mineral Derived Products 100%	1	Area Calcul	4.2
30	1 BED	Wall Finish - MDF Skirtings (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Skirting Boards MDF 25mm x 150mm	Material	Timber Medium Density Fibreboard (MDF)	5	Linear leng	0.64
30	1 BED	Wall Finish - MDF Skirtings (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Skirting Boards MDF 25mm x 150mm	Material	Timber Medium Density Fibreboard (MDF)	5	Linear leng	2.11
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	1.5	m2 (Default)	4.1
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	1.5	m2 (Default)	0.01
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	1.5	m2 (Default)	0.02
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.015	kg	0.03
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.015	kg	0
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.015	kg	0
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	1.5	m2 (Default)	0.01
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	1.5	m2 (Default)	0.02
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1.5	m2 (Default)	2.05
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1.5	m2 (Default)	0.01
30	1 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1.5	m2 (Default)	0.02
30	1 BED	External Wall - Framing, 100mm Timber Stud (600mm centres)	2.5.1	Superstructure External walls External enclosing walls above ground level	100x50mm Studs 600mm centres	Material	Timber Softwood Unspecified	8.3335	Count	2.49
30	1 BED	External Wall - Framing, 100mm Timber Stud (600mm centres)	2.5.1	Superstructure External walls External enclosing walls above ground level	100x50mm Studs 600mm centres	Material	Timber Softwood Unspecified	8.3335	Count	8.25
30	1 BED	External Wall - Framing, 100mm Timber Stud (600mm centres)	2.5.1	Superstructure External walls External enclosing walls above ground level	600mm Nogs (100x50)	Material	Timber Softwood Unspecified	8.3335	Count	0.62

30	1 BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	MDF 32mm Treads	Material	Timber Medium Density Fibreboard (MDF)	3.95	Count	14.22
30	1 BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	MDF 16mm Risers	Material	Timber Medium Density Fibreboard (MDF)	2.6	Count	1.41
30	1 BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	MDF 16mm Risers	Material	Timber Medium Density Fibreboard (MDF)	2.6	Count	4.68
30	1 BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	Hardware, nails, bolts etc	Material	Ferrous Metals Steel General Unspecified	5	kg	0.34
30	1 BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	Hardware, nails, bolts etc	Material	Ferrous Metals Steel General Unspecified	5	kg	0.15
30	1 BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	Adhesive	Material	Resins and Adhesives Urea Formaldehyde	0.75	kg	0.04
30	1 BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	Adhesive	Material	Resins and Adhesives Urea Formaldehyde	0.75	kg	0.11
30	1 BED	Staircase, Timber	3.2.1	Internal finishes Floor finishes Finishes to floors	Timber finish on risers and treads	Material	Timber Hardwood Unspecified	6.6	Count	2.69
30	1 BED	Staircase, Timber	3.2.1	Internal finishes Floor finishes Finishes to floors	Timber finish on risers and treads	Material	Timber Hardwood Unspecified	6.6	Count	8.91
30	1 BED	Staircase, Timber	3.2.1	Internal finishes Floor finishes Finishes to floors	Floor finish	Material	Paints and Finishes Wood Stains and Finishes	6.6	m2 (Default)	16.25
30	1 BED	Staircase, Timber	3.2.1	Internal finishes Floor finishes Finishes to floors	Floor finish	Material	Paints and Finishes Wood Stains and Finishes	6.6	m2 (Default)	0.03
30	1 BED	Staircase, Timber	3.2.1	Internal finishes Floor finishes Finishes to floors	Floor finish	Material	Paints and Finishes Wood Stains and Finishes	6.6	m2 (Default)	0.12
30	1 BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	Balustrade and Posts	Material	Timber General Unspecified	20	Count	2.88
30	1 BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	Balustrade and Posts	Material	Timber General Unspecified	20	Count	9.56
30	1 BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	Plywood handrail / balustrade cladding	Material	Timber Plywood Unspecified	5	Count	2.91
30	1 BED	Staircase, Timber	1.1.3	Substructure Substructure Lowest floor construction	Plywood handrail / balustrade cladding	Material	Timber Plywood Unspecified	5	Count	9.65
30	1 BED	Ceiling Fans Embodied	5.6	Services equipment Space heating and air conditioning	Copper electrical wire	Material	Metals (Non-Ferous) Copper Unspecified	12	kg	4.83
30	1 BED	Ceiling Fans Embodied	5.6	Services equipment Space heating and air conditioning	Copper electrical wire	Material	Metals (Non-Ferous) Copper Unspecified	12	kg	0.94
30	1 BED	Ceiling Fans Embodied	5.6	Services equipment Space heating and air conditioning	Plastic associated with electrical wire and fittings	Material	Plastics General Unspecified	9	kg	52.86
30	1 BED	Ceiling Fans Embodied	5.6	Services equipment Space heating and air conditioning	Plastic associated with electrical wire and fittings	Material	Plastics General Unspecified	9	kg	0.39
30	1 BED	Ceiling Fans Embodied	5.6	Services equipment Space heating and air conditioning	Plastic associated with electrical wire and fittings	Material	Plastics General Unspecified	9	kg	1.35
30	1 BED	Ceiling Fans Embodied	5.6	Services equipment Space heating and air conditioning	Fan rotor and blades	Material	Ferrous Metals Steel General Unspecified	12	kg	10.22
30	1 BED	Ceiling Fans Embodied	5.6	Services equipment Space heating and air conditioning	Fan rotor and blades	Material	Ferrous Metals Steel General Unspecified	12	kg	0.81
30	1 BED	Ceiling Fans Embodied	5.6	Services equipment Space heating and air conditioning	Fan rotor and blades	Material	Ferrous Metals Steel General Unspecified	12	kg	0.36
30	1 BED	Bulk Insulation - 90mm Fibreglass (R2.0)	2.5.1	Superstructure External walls External enclosing walls above ground level Insulation	R2.0 fibreglass batts 90mm	Material	Insulation Blankets and Batts Glass Fibre Batts	63.4	Area Calculated	2.95
30	1 BED	Bulk Insulation - 90mm Fibreglass (R2.0)	2.5.1	Superstructure External walls External enclosing walls above ground level Insulation	R2.0 fibreglass batts 90mm	Material	Insulation Blankets and Batts Glass Fibre Batts	63.4	Area Calculated	10.27
30	1 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3.1	Superstructure Roof Roof structure	Top chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	0.6772128	m3	22.96
30	1 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3.1	Superstructure Roof Roof structure	Top chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	0.6772128	m3	76.19
30	1 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Bottom chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	0.6772128	m3	22.96
30	1 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Bottom chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	0.6772128	m3	76.19
30	1 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Stiffener Platesx8 (0.24x0.25x1.35)	Material	Timber Hardwood Unspecified	0.182847456	m3	6.2
30	1 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Stiffener Platesx8 (0.24x0.25x1.35)	Material	Timber Hardwood Unspecified	0.182847456	m3	20.57
30	1 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Uprightsx18 (0.24x0.025x0.5)	Material	Timber Hardwood Unspecified	0.15237288	m3	5.17
30	1 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Uprightsx18 (0.24x0.025x0.5)	Material	Timber Hardwood Unspecified	0.15237288	m3	17.14
30	1 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	1m of 3mm thick semi circular gutter (112mm)	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	16.456	Count	2.37
30	1 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	1m of 3mm thick semi circular gutter (112mm)	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	16.456	Count	1.44
30	1 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	Screws, bolts & fixings	Material	Ferrous Metals Steel Galvanised Structural	0.49368	kg	0.03
30	1 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	Screws, bolts & fixings	Material	Ferrous Metals Steel Galvanised Structural	0.49368	kg	0.01
30	1 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	0.48mm corrugated/CustomOrb sheet	Material	Ferrous Metals Steel Coated Sheet Zinc Coated	239.566448	kg	16.1
30	1 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	0.48mm corrugated/CustomOrb sheet	Material	Ferrous Metals Steel Coated Sheet Zinc Coated	239.566448	kg	7.19
30	1 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	Fastenings	Material	Ferrous Metals Steel Stainless Unspecified	0.485936	kg	0.03
30	1 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	Fastenings	Material	Ferrous Metals Steel Stainless Unspecified	0.485936	kg	0.01
30	1 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	R1.3 glasswool blanket	Material	Insulation Blankets and Batts Glass Fibre Batts	48.5936	Count	1.51
30	1 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	R1.3 glasswool blanket	Material	Insulation Blankets and Batts Glass Fibre Batts	48.5936	Count	5.25
30	1 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil lining	Material	Metals (Non-Ferous) Aluminium Unspecified	48.5936	Count	33.46
30	1 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil lining	Material	Metals (Non-Ferous) Aluminium Unspecified	48.5936	Count	4.2
30	1 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil glue	Material	Resins and Adhesives Melamine Resin	48.5936	Count	0.72
30	1 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil glue	Material	Resins and Adhesives Melamine Resin	48.5936	Count	2.19
30	1 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	2.09
30	1 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	0.01
30	1 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	0.02
30	1 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	16.34
30	1 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	0.19
30	1 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	0.04
30	1 BED	Balustrade, Steel End Posts and Steel Rails	2.5.1	Superstructure External walls External enclosing walls above ground level	Brackets and bolts	Material	Ferrous Metals Steel Stainless Unspecified	6.7	kg	0.45
30	1 BED	Balustrade, Steel End Posts and Steel Rails	2.5.1	Superstructure External walls External enclosing walls above ground level	Brackets and bolts	Material	Ferrous Metals Steel Stainless Unspecified	6.7	kg	0.2
30	1 BED	Balustrade, Steel End Posts and Steel Rails	2.5.1	Superstructure External walls External enclosing walls above ground level	Hand, End and Middle Rails	Material	Ferrous Metals Steel General Unspecified	178.22	kg	11.98
30	1 BED	Balustrade, Steel End Posts and Steel Rails	2.5.1	Superstructure External walls External enclosing walls above ground level	Hand, End and Middle Rails	Material	Ferrous Metals Steel General Unspecified	178.22	kg	5.35
30	1 BED	Shower unit	4.1	Fittings, furnishings and equipment	900mm x900mm Ceramic Shower base	Material	Ceramics Porcelain Sanitary Products General	35	kg	1.58
30	1 BED	Shower unit	4.1	Fittings, furnishings and equipment	900mm x900mm Ceramic Shower base	Material	Ceramics Porcelain Sanitary Products General	35	kg	5.25
30	1 BED	Shower unit	4.1	Fittings, furnishings and equipment	Showerhead	Material	Ferrous Metals Steel Stainless Unspecified	1	kg	5.57
30	1 BED	Shower unit	4.1	Fittings, furnishings and equipment	Showerhead	Material	Ferrous Metals Steel Stainless Unspecified	1	kg	0.07
30	1 BED	Shower unit	4.1	Fittings, furnishings and equipment	Showerhead	Material	Ferrous Metals Steel Stainless Unspecified	1	kg	0.03
30	1 BED	Shower unit	4.1	Fittings, furnishings and equipment	Shower screens (2x sides)	Material	Glass Flat Glass	2	Count	313.57
30	1 BED	Shower unit	4.1	Fittings, furnishings and equipment	Shower screens (2x sides)	Material	Glass Flat Glass	2	Count	3.55
30	1 BED	Shower unit	4.1	Fittings, furnishings and equipment	Shower screens (2x sides)	Material	Glass Flat Glass	2	Count	10.8
30	1 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	2.49
30	1 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	0.48
30	1 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5	Count	0.26
30	1 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5	Count	0.16
30	1 BED	WC	4.1	Fittings, furnishings and equipment	Toilet	Material	Ceramics Porcelain Sanitary Products Toilet	1	# (Default)	2.36
30	1 BED	WC	4.1	Fittings, furnishings and equipment	Toilet	Material	Ceramics Porcelain Sanitary Products Toilet	1	# (Default)	7.5
30	1 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	2.49
30	1 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	0.48
30	1 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5	Count	0.26

30	1 BED	Electrical Fittings - Embodied only (sockets/power points/wires etc)	5.8	Services equipment Electrical installations	Plastic associated with electrical wire and fittings	Material	Plastics General Unspecified	24	kg	3.6
30	1 BED	Electrical Fittings - Embodied only (sockets/power points/wires etc)	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Ferrous Metals Steel General Unspecified	2	kg	0.13
30	1 BED	Electrical Fittings - Embodied only (sockets/power points/wires etc)	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Ferrous Metals Steel General Unspecified	2	kg	0.06
30	1 BED	Electrical Fittings - Embodied only (sockets/power points/wires etc)	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Plastics General Unspecified	1	kg	8.81
30	1 BED	Electrical Fittings - Embodied only (sockets/power points/wires etc)	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Plastics General Unspecified	1	kg	0.04
30	1 BED	Electrical Fittings - Embodied only (sockets/power points/wires etc)	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Plastics General Unspecified	1	kg	0.15
30	1 BED	External Works - Sand Bed	8.2.1	External works Roads, paths, paving's and surfacing's Roads, paths and paving's	Sand bed 200mm	Material	Bulk Aggregates Sands and Soils Sand (Comp)	15	Area Calcul	1978.39
30	1 BED	External Works - Sand Bed	8.2.1	External works Roads, paths, paving's and surfacing's Roads, paths and paving's	Sand bed 200mm	Material	Bulk Aggregates Sands and Soils Sand (Comp)	15	Area Calcul	281.67
30	1 BED	External Works - Sand Bed	8.2.1	External works Roads, paths, paving's and surfacing's Roads, paths and paving's	Sand bed 200mm	Material	Bulk Aggregates Sands and Soils Sand (Comp)	15	Area Calcul	1008
30	1 BED	Plumbing, Water and Sewerage Connection, Residential	5.1	Services equipment Sanitary installations	Sewer pipe (210 diam)	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	1.78	Count	1.28
30	1 BED	Plumbing, Water and Sewerage Connection, Residential	5.1	Services equipment Sanitary installations	Sewer pipe (210 diam)	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	1.78	Count	0.78
30	1 BED	Plumbing, Water and Sewerage Connection, Residential	5.1	Services equipment Sanitary installations	Hardware (pressure limiting valve, mains tap etc)	Material	Ferrous Metals Steel Stainless Unspecified	0.5	kg	0.03
30	1 BED	Plumbing, Water and Sewerage Connection, Residential	5.1	Services equipment Sanitary installations	Hardware (pressure limiting valve, mains tap etc)	Material	Ferrous Metals Steel Stainless Unspecified	0.5	kg	0.01
30	1 BED	Plumbing, Water and Sewerage Connection, Residential	5.1	Services equipment Sanitary installations	Copper pipe (28mm diam) water supply from main	Material	Metals (Non-Ferous) Copper Unspecified	40	Count	12.47
30	1 BED	Plumbing, Water and Sewerage Connection, Residential	5.1	Services equipment Sanitary installations	Copper pipe (28mm diam) water supply from main	Material	Metals (Non-Ferous) Copper Unspecified	40	Count	2.41
30	1 BED	Shading, sunshade, commercial, aluminium fins	2.5.3	Superstructure External walls Solar/rain screening	aluminium fins	Material	Metals (Non-Ferous) Aluminium Sheet - Pov	54	Count	122.71
30	1 BED	Shading, sunshade, commercial, aluminium fins	2.5.3	Superstructure External walls Solar/rain screening	aluminium fins	Material	Metals (Non-Ferous) Aluminium Sheet - Pov	54	Count	15.4
30	1 BED	Timber Framed Floor - 140mm Elevated Upper Floor (Superstructure)	2.1.1	Superstructure Frame Frame	Hangers, Bolts, brackets and nails	Material	Ferrous Metals Steel General Unspecified	0.3	kg	0.02
30	1 BED	Timber Framed Floor - 140mm Elevated Upper Floor (Superstructure)	2.1.1	Superstructure Frame Frame	Bearers / End Caps	Material	Timber Glue Laminated Unspecified	0.2	m3	6.78
30	1 BED	Timber Framed Floor - 140mm Elevated Upper Floor (Superstructure)	2.1.1	Superstructure Frame Frame	Bearers / End Caps	Material	Timber Glue Laminated Unspecified	0.2	m3	22.5
30	1 BED	Timber Framed Floor - 140mm Elevated Upper Floor (Superstructure)	2.1.1	Superstructure Frame Frame	Engineered I Beam Web	Material	Timber Plywood Unspecified	24	Count	7.24
30	1 BED	Timber Framed Floor - 140mm Elevated Upper Floor (Superstructure)	2.1.1	Superstructure Frame Frame	Engineered I Beam Web	Material	Timber Plywood Unspecified	24	Count	24.01
30	1 BED	Timber Framed Floor - 140mm Elevated Upper Floor (Superstructure)	2.1.1	Superstructure Frame Frame	Engineered I Beam Flanges	Material	Timber Softwood Unspecified	48	Count	17.04
30	1 BED	Timber Framed Floor - 140mm Elevated Upper Floor (Superstructure)	2.1.1	Superstructure Frame Frame	Engineered I Beam Flanges	Material	Timber Softwood Unspecified	48	Count	56.55
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Sealer	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	0
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Sealer	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	0.02
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	2.05
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	0
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	0.02
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	3.08
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	0
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	0.02
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Skirting boards	Material	Timber Medium Density Fibreboard (MDF)	0.4167	Count	0.04
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Skirting boards	Material	Timber Medium Density Fibreboard (MDF)	0.4167	Count	0.12
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Cornices	Material	Plaster and Mineral Derived Products 100%	0.41	Count	0.04
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Cornices	Material	Plaster and Mineral Derived Products 100%	0.41	Count	0.14
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Sealer	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	0
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Sealer	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	0.02
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	2.05
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	0
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	0.02
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	2.74
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	0
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5	Superstructure External walls External Paint, Textures and Renders	Final Coat	Material	Paints and Finishes Unspecified 1 Coat	1	m2 (Default	0.02
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes	Plaster Board	Material	Plaster and Mineral Derived Products 100%	1	m2 (Default	0.49
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	3.1.1	Internal finishes Wall finishes Wall finishes	Plaster Board	Material	Plaster and Mineral Derived Products 100%	1	m2 (Default	1.71
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5.1	Superstructure External walls External enclosing walls above ground level	Fasteners / nails	Material	Ferrous Metals Steel General Unspecified	0.1	kg	0.01
30	1 BED	CLT 100mm, Texture Coat Ext. and Plastbrd Clad Int	2.5.1	Superstructure External walls External enclosing walls above ground level	Fasteners / nails	Material	Ferrous Metals Steel General Unspecified	0.1	kg	0
30	1 BED	BASE SINGLE MODULE	15	Water Supply	Miscellaneous	OperationalWa	Water Supply: General	50		7.5
30	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Miscellaneous	OperationalWa	Water Treatment: General	50		7.5
30	1 BED	BASE SINGLE MODULE	15	Water Supply	Pool (Average across perth)	OperationalWa	Water Supply: General	30.7		4.61
30	1 BED	BASE SINGLE MODULE	15	Water Supply	Toilets	OperationalWa	Water Supply: General	120		18
30	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Toilet	OperationalWa	Water Treatment: General	120		18
30	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Shower	OperationalWa	Water Supply: General	180.36		41.33
30	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Shower	OperationalWa	Water Treatment: General	180.36		41.33
30	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWa	Water Supply: General	22.545		5.17
30	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWa	Water Treatment: General	22.545		5.17
30	1 BED	BASE SINGLE MODULE	15	Water Supply	Residential Laundry	OperationalWa	Water Supply: General	50.045		9.29
30	1 BED	BASE SINGLE MODULE	16	Water Removal and Treatment	Residential Laundry	OperationalWa	Water Treatment: General	50.045		9.29
30	1 BED	BASE SINGLE MODULE	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	111.23
30	1 BED	BASE SINGLE MODULE	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	40.42
30	1 BED	BASE SINGLE MODULE	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	514.38
30	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	92.25
30	1 BED	BASE SINGLE MODULE	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.333333	MJ/year	30.75
30	1 BED	BASE SINGLE MODULE	4	Lighting	Lighting Electricity Consumption	Operational	AU WA SWIS Residential	10277.37931	MJ/year	40.8
30	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	82.93
30	1 BED	BASE SINGLE MODULE	7	Appliances Entertainment	Televisions (MEPS 2.2 Star)	Operational	AU WA SWIS Residential	6077	MJ/year	124.51
30	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes washing machine (MEPS 1 Star)	Operational	AU WA SWIS Residential	4055	MJ/year	83.08
30	1 BED	BASE SINGLE MODULE	6	Appliances Laundry Appliances	Clothes Dryers (MEPS 1 Star)	Operational	AU WA SWIS Residential	1732	MJ/year	35.51
30	1 BED	BASE SINGLE MODULE	20	Appliances Dishwashers	Dishwashing machines (MEPS 1 Star)	Operational	AU WA SWIS Residential	2100	MJ/year	62.07

FunctionN	Name	Code	Category	Description	Type	Source	Quantity	Unit	Cost
2 BED	Landscaping, site preparation		8 External works	Level and grade site	Equipment	Compactor Roller, Vibratory Steel, 25t	3.44	hrs	1849.22
2 BED	Landscaping, site preparation		8 External works	Level and grade site	Equipment	Compactor Roller, Vibratory Steel, 25t	3.44	hrs	1916.77
2 BED	Landscaping, site preparation		8 External works	Level and grade surface	People	Trade Staff (Small Electrical Equipment)	3.44	hrs	11.15
2 BED	Landscaping, site preparation		8 External works	Level and grade surface	People	Trade Staff (Small Electrical Equipment)	3.44	hrs	344.03
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Refrigerator	People	Trade Staff (Small Electrical Equipment)	0.25	hrs	11.15
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Refrigerator	People	Trade Staff (Small Electrical Equipment)	0.25	hrs	25
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Manufacture fridge	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	50.25
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5 Services equipment	Airconditioning Factory Processes	Equipment	Offsite Manufacturing / Prefabrication Process	20	hrs	201.01
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5 Services equipment	Install Airconditioning Unit	People	Trade Staff (Small Electrical Equipment)	2	hrs	11.15
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5 Services equipment	Install Airconditioning Unit	People	Trade Staff (Small Electrical Equipment)	2	hrs	200.02
2 BED	HWS - Electric Instantaneous		5 Services equipment	Plumber for HWS installation	People	Trade Staff (Small Electrical Equipment)	4	hrs	11.15
2 BED	HWS - Electric Instantaneous		5 Services equipment	Plumber for HWS installation	People	Trade Staff (Small Electrical Equipment)	4	hrs	400.04
2 BED	HWS - Electric Instantaneous		5 Services equipment	Hot Water Unit Assembly	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	50.25
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Cooker	People	Trade Staff (Small Electrical Equipment)	0.2	hrs	11.15
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Cooker	People	Trade Staff (Small Electrical Equipment)	0.2	hrs	20
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Makeing the cooker	Equipment	Offsite Manufacturing / Prefabrication Process	20	hrs	201.01
2 BED	Lighting Residential CFL Med Natural Light		4 Fittings, furnishings and equipment	Electrician Fit Lights	People	Trade Staff (Small Electrical Equipment)	0.0625	hrs	11.15
2 BED	Lighting Residential CFL Med Natural Light		4 Fittings, furnishings and equipment	Electrician Fit Lights	People	Trade Staff (Small Electrical Equipment)	0.0625	hrs	6.25
2 BED	Lighting Residential CFL Med Natural Light		4 Fittings, furnishings and equipment	Change Light Bulbs	People	Trade Staff (No Equipment, labour transport only)	0.0111111	hrs	11.15
2 BED	Lighting Residential CFL Med Natural Light		4 Fittings, furnishings and equipment	Change Light Bulbs	People	Trade Staff (No Equipment, labour transport only)	0.0111111	hrs	1.11
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	11.15
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	75.01
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	50.25
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	11.15
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	75.01
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	50.25
2 BED	Sewerage - Assembly (Excavation & Backfilling)		5 Services equipment	Labourer (0.2hrs/m3)	People	Trade Staff (No Equipment, labour transport only)	2.4	hrs	11.15
2 BED	Sewerage - Assembly (Excavation & Backfilling)		5 Services equipment	Labourer (0.2hrs/m3)	People	Trade Staff (No Equipment, labour transport only)	2.4	hrs	240
2 BED	Sewerage - Assembly (Excavation & Backfilling)		5 Services equipment	Excavation & Backfilling (0.2hrs/m3)	Equipment	Loader / Backhoe	2.4	hrs	842.4
2 BED	Sewerage - Assembly (Excavation & Backfilling)		5 Services equipment	Excavation & Backfilling (0.2hrs/m3)	Equipment	Loader / Backhoe	2.4	hrs	1337.28
2 BED	Sewerage - Assembly (Excavation & Backfilling)		5 Services equipment	Excavation & Backfilling (0.08hrs/m3)	Equipment	Front End Loader, Articulated, 25t	0.96	hrs	842.4
2 BED	Sewerage - Assembly (Excavation & Backfilling)		5 Services equipment	Excavation & Backfilling (0.08hrs/m3)	Equipment	Front End Loader, Articulated, 25t	0.96	hrs	467.71
2 BED	Sewerage - Assembly (Excavation & Backfilling)		5 Services equipment	Excavation & Backfilling (0.1hrs/m3)	Equipment	Highway 4 x 6 Dump Truck	1.2	hrs	1705.39
2 BED	Sewerage - Assembly (Excavation & Backfilling)		5 Services equipment	Excavation & Backfilling (0.1hrs/m3)	Equipment	Highway 4 x 6 Dump Truck	1.2	hrs	236.64
2 BED	Sewerage - Assembly (Excavation & Backfilling)		5 Services equipment	Vibrating Plate (0.1hrs/m3)	Equipment	Large Electrical Equipment (eg mixer)	1.2	hrs	18.59
2 BED	Sewerage - Assembly (Excavation & Backfilling)		5 Services equipment	Vibrating Plate (0.1hrs/m3)	Equipment	Large Electrical Equipment (eg mixer)	1.2	hrs	120.12
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)		4 Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	11.15
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)		4 Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	75.01
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)		4 Fittings, furnishings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	50.25
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)		4 Fittings, furnishings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	11.15
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)		4 Fittings, furnishings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	75.01
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)		4 Fittings, furnishings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	50.25
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)		4 Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	11.15
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)		4 Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	75.01
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)		4 Fittings, furnishings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	50.25
2 BED	Balustrade, Steel End Posts and Steel Rails	2.5	Superstructure External walls	Offsite manufacturing of ballustrade	Equipment	Offsite Manufacturing / Prefabrication Process	4.25	hrs	42.71
2 BED	Balustrade, Steel End Posts and Steel Rails	2.5	Superstructure External walls	Install Ballustrade	People	Trade Staff (Small Electrical Equipment)	12.75	hrs	22.31
2 BED	Balustrade, Steel End Posts and Steel Rails	2.5	Superstructure External walls	Install Ballustrade	People	Trade Staff (Small Electrical Equipment)	12.75	hrs	1275.12
2 BED	Shower unit	5.1	Services equipment Sanitary installations	Plumber fit shower base	People	Trade Staff (Small Electrical Equipment)	2	hrs	11.15
2 BED	Shower unit	5.1	Services equipment Sanitary installations	Plumber fit shower base	People	Trade Staff (Small Electrical Equipment)	2	hrs	200.02
2 BED	Shower unit	5.1	Services equipment Sanitary installations	Plumber to fit shower tap combination set	People	Trade Staff (Small Electrical Equipment)	1	hrs	11.15
2 BED	Shower unit	5.1	Services equipment Sanitary installations	Plumber to fit shower tap combination set	People	Trade Staff (Small Electrical Equipment)	1	hrs	100.01
2 BED	Shower unit	5.1	Services equipment Sanitary installations	Fit shower enclosure	People	Trade Staff (Small Electrical Equipment)	3	hrs	11.15
2 BED	Shower unit	5.1	Services equipment Sanitary installations	Fit shower enclosure	People	Trade Staff (Small Electrical Equipment)	3	hrs	300.03
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber Lay PVC waste water pipework	People	Trade Staff (Small Electrical Equipment)	0.3	hrs	11.15
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber Lay PVC waste water pipework	People	Trade Staff (Small Electrical Equipment)	0.3	hrs	30
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber lay copper pipe water supply	People	Trade Staff (Small Electrical Equipment)	0.11	hrs	11.15
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber lay copper pipe water supply	People	Trade Staff (Small Electrical Equipment)	0.11	hrs	11
2 BED	WC	5.1	Services equipment Sanitary installations	Plumber fit WC	People	Trade Staff (Small Electrical Equipment)	2.75	hrs	11.15
2 BED	WC	5.1	Services equipment Sanitary installations	Plumber fit WC	People	Trade Staff (Small Electrical Equipment)	2.75	hrs	275.03
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber Lay PVC waste water pipework	People	Trade Staff (Small Electrical Equipment)	0.3	hrs	11.15
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber Lay PVC waste water pipework	People	Trade Staff (Small Electrical Equipment)	0.3	hrs	30
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber lay copper pipe water supply	People	Trade Staff (Small Electrical Equipment)	0.11	hrs	11.15
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber lay copper pipe water supply	People	Trade Staff (Small Electrical Equipment)	0.11	hrs	11
2 BED	Wall Basin/sink (ceramic)	5.1	Services equipment Sanitary installations	Plumber fit tap set	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	11.15
2 BED	Wall Basin/sink (ceramic)	5.1	Services equipment Sanitary installations	Plumber fit tap set	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	50
2 BED	Wall Basin/sink (ceramic)	5.1	Services equipment Sanitary installations	Plumber fix wall basin	People	Trade Staff (Small Electrical Equipment)	2	hrs	11.15
2 BED	Wall Basin/sink (ceramic)	5.1	Services equipment Sanitary installations	Plumber fix wall basin	People	Trade Staff (Small Electrical Equipment)	2	hrs	200.02
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber Lay PVC waste water pipework	People	Trade Staff (Small Electrical Equipment)	0.3	hrs	11.15
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber Lay PVC waste water pipework	People	Trade Staff (Small Electrical Equipment)	0.3	hrs	30
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber lay copper pipe water supply	People	Trade Staff (Small Electrical Equipment)	0.11	hrs	11.15
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Plumber lay copper pipe water supply	People	Trade Staff (Small Electrical Equipment)	0.11	hrs	11
2 BED	Bulk Insulation - 90mm Fibreglass (R2.0)	2.5	Superstructure External walls	install insulation	People	Trade Staff (Small Electrical Equipment)	10.965	hrs	22.31
2 BED	Bulk Insulation - 90mm Fibreglass (R2.0)	2.5	Superstructure External walls	install insulation	People	Trade Staff (Small Electrical Equipment)	10.965	hrs	1096.61

2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	Install plasterboard	People	Trade Staff (Small Electrical Equipment)	30.96	hrs	44.62
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	Install plasterboard	People	Trade Staff (Small Electrical Equipment)	30.96	hrs	3096.3
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	9.675	hrs	22.31
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	9.675	hrs	967.59
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	9.675	hrs	22.31
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	9.675	hrs	967.59
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	9.675	hrs	22.31
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	9.675	hrs	967.59
2 BED	CLT Timber Floor cubic meters (m3)(Superstructure)	2.2.1	Superstructure Upper floors Floors	Install timber floor (0.5hrs for 200mm)	People	Remote Trade Staff (Small Electrical Equipment)	29.025	hrs	22.31
2 BED	CLT Timber Floor cubic meters (m3)(Superstructure)	2.2.1	Superstructure Upper floors Floors	Install timber floor (0.5hrs for 200mm)	People	Remote Trade Staff (Small Electrical Equipment)	29.025	hrs	3483.28
2 BED	Door - SolidCoreTimber/SteelJam/Painted (#)	2.5	Superstructure External walls	Installation of Door (3 hinges)	People	Trade Staff (Small Electrical Equipment)	2.5	hrs	11.15
2 BED	Door - SolidCoreTimber/SteelJam/Painted (#)	2.5	Superstructure External walls	Installation of Door (3 hinges)	People	Trade Staff (Small Electrical Equipment)	2.5	hrs	250.02
2 BED	Door - SolidCoreTimber/SteelJam/Painted (#)	2.5	Superstructure External walls	Fixing of door frame (metal)	People	Trade Staff (Small Electrical Equipment)	3	hrs	11.15
2 BED	Door - SolidCoreTimber/SteelJam/Painted (#)	2.5	Superstructure External walls	Fixing of door frame (metal)	People	Trade Staff (Small Electrical Equipment)	3	hrs	300.03
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter undercoat	People	Trade Staff (Small Electrical Equipment)	1.4175	hrs	11.15
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter undercoat	People	Trade Staff (Small Electrical Equipment)	1.4175	hrs	141.76
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	1.4175	hrs	11.15
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	1.4175	hrs	141.76
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	1.4175	hrs	11.15
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	1.4175	hrs	141.76
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	0.70875	hrs	11.15
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	0.70875	hrs	70.88
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for undercoat	People	Trade Staff (Small Electrical Equipment)	0.70875	hrs	11.15
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for undercoat	People	Trade Staff (Small Electrical Equipment)	0.70875	hrs	70.88
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.70875	hrs	11.15
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.70875	hrs	70.88
2 BED	Double Door, Hollow Core, Steel Jam	2.5	Superstructure External walls	Installation of Door	People	Trade Staff (Small Electrical Equipment)	2	hrs	11.15
2 BED	Double Door, Hollow Core, Steel Jam	2.5	Superstructure External walls	Installation of Door	People	Trade Staff (Small Electrical Equipment)	2	hrs	200.02
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	3.024	hrs	11.15
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	3.024	hrs	302.43
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	3.024	hrs	11.15
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	3.024	hrs	302.43
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	3.024	hrs	11.15
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	3.024	hrs	302.43
2 BED	Electrical Fittings - sockets, power points, wiring, embodie	5	Services equipment	Electrician	People	Trade Staff (Small Electrical Equipment)	35.833333	hrs	55.77
2 BED	Electrical Fittings - sockets, power points, wiring, embodie	5	Services equipment	Electrician	People	Trade Staff (Small Electrical Equipment)	35.833333	hrs	3583.68
2 BED	Windows single glazed aluminium frame individual compo	2.5	Superstructure External walls	Install Windows	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	11.15
2 BED	Windows single glazed aluminium frame individual compo	2.5	Superstructure External walls	Install Windows	People	Trade Staff (Small Electrical Equipment)	5.4	hrs	540.05
2 BED	Fire Services Fire sprinkler	5	Services equipment	Install sprinkler	People	Trade Staff (Small Electrical Equipment)	0.4998	hrs	11.15
2 BED	Fire Services Fire sprinkler	5	Services equipment	Install sprinkler	People	Trade Staff (Small Electrical Equipment)	0.4998	hrs	49.98
2 BED	Fire Services Fire sprinkler	5	Services equipment	Manufactur sprinkler	Equipment	Offsite Manufacturing / Prefabrication Process	1.00002	hrs	10.05
2 BED	Floor Covering - Tiles (ceramic/5mm)	3	Internal finishes	Tiler	People	Trade Staff (Small Electrical Equipment)	10	hrs	22.31
2 BED	Floor Covering - Tiles (ceramic/5mm)	3	Internal finishes	Tiler	People	Trade Staff (Small Electrical Equipment)	10	hrs	1000.1
2 BED	Poured Concrete - Foundations, 40MPa	1.1	Substructure Substructure	Pour Concrete	Equipment	Concrete Pump	0.0282857	hrs	431.48
2 BED	Poured Concrete - Foundations, 40MPa	1.1	Substructure Substructure	Pour Concrete	Equipment	Concrete Pump	0.0282857	hrs	9.21
2 BED	Poured Concrete - Foundations, 40MPa	1.1	Substructure Substructure	Concreter pour concrete	People	Trade Staff (Small Electrical Equipment)	0.0848571	hrs	11.15
2 BED	Poured Concrete - Foundations, 40MPa	1.1	Substructure Substructure	Concreter pour concrete	People	Trade Staff (Small Electrical Equipment)	0.0848571	hrs	8.49
2 BED	Reinforcement Bar Foundations kg	1.1	Substructure Substructure	Install reinforcement	People	Trade Staff (Small Electrical Equipment)	10.104326	hrs	22.31
2 BED	Reinforcement Bar Foundations kg	1.1	Substructure Substructure	Install reinforcement	People	Trade Staff (Small Electrical Equipment)	10.104326	hrs	1010.53
2 BED	Small scale excavation	8	External works	Drive digger	People	Trade Staff (Small Electrical Equipment)	2.376	hrs	11.15
2 BED	Small scale excavation	8	External works	Drive digger	People	Trade Staff (Small Electrical Equipment)	2.376	hrs	237.62
2 BED	Small scale excavation	8	External works	Digger	Equipment	Trench Digger / Dingo	2.376	hrs	9.29
2 BED	Small scale excavation	8	External works	Digger	Equipment	Trench Digger / Dingo	2.376	hrs	434.48
2 BED	Wall Finish - Plaster Cornices (m)	3	Internal finishes	Install cornices and skirting	People	Trade Staff (Small Electrical Equipment)	6.9	hrs	11.15
2 BED	Wall Finish - Plaster Cornices (m)	3	Internal finishes	Install cornices and skirting	People	Trade Staff (Small Electrical Equipment)	6.9	hrs	690.07
2 BED	Wall Finish - MDF Skirtings (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Install skirting	People	Trade Staff (Small Electrical Equipment)	6.9	hrs	11.15
2 BED	Wall Finish - MDF Skirtings (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Install skirting	People	Trade Staff (Small Electrical Equipment)	6.9	hrs	690.07
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	1.4554688	hrs	11.15
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	1.4554688	hrs	145.56
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	1.4554688	hrs	11.15
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	1.4554688	hrs	145.56
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.4554688	hrs	11.15
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.4554688	hrs	145.56
2 BED	Bulk Insulation - 75mm Fibreglass (R1.5)	2.5	Superstructure External walls	install insulation	People	Trade Staff (Small Electrical Equipment)	6.598125	hrs	11.15
2 BED	Bulk Insulation - 75mm Fibreglass (R1.5)	2.5	Superstructure External walls	install insulation	People	Trade Staff (Small Electrical Equipment)	6.598125	hrs	659.88
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Carpenter Install 2.4m Studs (100x38)	People	Trade Staff (Small Electrical Equipment)	5.95125	hrs	11.15
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Carpenter Install 2.4m Studs (100x38)	People	Trade Staff (Small Electrical Equipment)	5.95125	hrs	595.18
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	carpenter install noggins 1 m (100x38mm)	People	Trade Staff (Small Electrical Equipment)	3.01875	hrs	11.15
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	carpenter install noggins 1 m (100x38mm)	People	Trade Staff (Small Electrical Equipment)	3.01875	hrs	301.9
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Carpenter install plates	People	Trade Staff (Small Electrical Equipment)	7.546875	hrs	11.15
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Carpenter install plates	People	Trade Staff (Small Electrical Equipment)	7.546875	hrs	754.76
2 BED	Wall Lining - Plasterboard (12mm)	3.1.1	Internal finishes Wall finishes Wall finishes	Install plasterboards	People	Trade Staff (Small Electrical Equipment)	31.05	hrs	44.62
2 BED	Wall Lining - Plasterboard (12mm)	3.1.1	Internal finishes Wall finishes Wall finishes	Install plasterboards	People	Trade Staff (Small Electrical Equipment)	31.05	hrs	3105.3
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	11.64375	hrs	22.31
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prepare wall and apply primer	People	Trade Staff (Small Electrical Equipment)	11.64375	hrs	1164.49

2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	11.64375	hrs	22.31
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	11.64375	hrs	1164.49
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	11.64375	hrs	22.31
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	11.64375	hrs	1164.49
2 BED	Kitchen cabinetry (stone benchtop), medium	4	Fittings, furnishings and equipment	assembly	People	Trade Staff (Small Electrical Equipment)	8	hrs	11.15
2 BED	Kitchen cabinetry (stone benchtop), medium	4	Fittings, furnishings and equipment	assembly	People	Trade Staff (Small Electrical Equipment)	8	hrs	800.08
2 BED	Kitchen cabinetry (stone benchtop), medium	4	Fittings, furnishings and equipment	hardware, plastic, misc	Equipment	Offsite Manufacturing / Prefabrication Process	4	hrs	40.2
2 BED	Engineered Stone Benchtop	4.1	Fittings, furnishings and equipment	Benchtop Manufacturing	Equipment	Offsite Manufacturing / Prefabrication Process	0.8	hrs	8.04
2 BED	Engineered Stone Benchtop	4.1	Fittings, furnishings and equipment	Installation	People	Trade Staff (Small Electrical Equipment)	0.4	hrs	11.15
2 BED	Engineered Stone Benchtop	4.1	Fittings, furnishings and equipment	Installation	People	Trade Staff (Small Electrical Equipment)	0.4	hrs	40
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3	Superstructure Roof	Offsite manufacture	Equipment	Offsite Manufacturing / Prefabrication Process	11.28688	hrs	113.44
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3	Superstructure Roof	Install truss	People	Trade Staff (Small Electrical Equipment)	1.128688	hrs	11.15
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3	Superstructure Roof	Install truss	People	Trade Staff (Small Electrical Equipment)	1.128688	hrs	112.88
2 BED	Gutter - PVC	2.3	Superstructure Roof	Install gutter (0.34hrs/m)	People	Trade Staff (Small Electrical Equipment)	11.19008	hrs	22.31
2 BED	Gutter - PVC	2.3	Superstructure Roof	Install gutter (0.34hrs/m)	People	Trade Staff (Small Electrical Equipment)	11.19008	hrs	1119.12
2 BED	Covering - Steel Sheeting 0.42mm corrugated	2.3	Superstructure Roof	Install Roofing	People	Trade Staff (Small Electrical Equipment)	19.43744	hrs	33.46
2 BED	Covering - Steel Sheeting 0.42mm corrugated	2.3	Superstructure Roof	Install Roofing	People	Trade Staff (Small Electrical Equipment)	19.43744	hrs	1943.93
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof	Glue foil to glasswool insulation	Equipment	Offsite Manufacturing / Prefabrication Process	5.831232	hrs	58.61
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof	Installation in roof	People	Trade Staff (No Equipment, labour transport only)	5.102328	hrs	11.15
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof	Installation in roof	People	Trade Staff (No Equipment, labour transport only)	5.102328	hrs	510.23
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Factory Assembly	Equipment	Offsite Manufacturing / Prefabrication Process	0.43	hrs	4.32
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Install Framing	People	Trade Staff (Small Electrical Equipment)	15.91	hrs	22.31
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Install Framing	People	Trade Staff (Small Electrical Equipment)	15.91	hrs	1591.15
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Install Bearers	People	Trade Staff (Small Electrical Equipment)	16.77	hrs	33.46
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Install Bearers	People	Trade Staff (Small Electrical Equipment)	16.77	hrs	1677.16
2 BED	Floor Covering - 19mm particle/chipboard flooring (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Install Subfloor	People	Trade Staff (Small Electrical Equipment)	18.06	hrs	33.46
2 BED	Floor Covering - 19mm particle/chipboard flooring (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Install Subfloor	People	Trade Staff (Small Electrical Equipment)	18.06	hrs	1806.17
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5	Superstructure External walls	Install wall	People	Trade Staff (Small Electrical Equipment)	41.184	hrs	66.92
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5	Superstructure External walls	Install wall	People	Trade Staff (Small Electrical Equipment)	41.184	hrs	4118.8
2 BED	Wall, 150mm CLT, Unfinished, m2	2.1	Superstructure Frame	Crane, lift panels into place	Equipment	Crane	12.87	hrs	534.22
2 BED	Wall, 150mm CLT, Unfinished, m2	2.1	Superstructure Frame	Crane, lift panels into place	Equipment	Crane	12.87	hrs	14323.02
2 BED	Windows, Residential Aluminium Double Glaze, fly screen	2.5	Superstructure External walls	Install Windows	People	Trade Staff (Small Electrical Equipment)	1.3888889	hrs	11.15
2 BED	Windows, Residential Aluminium Double Glaze, fly screen	2.5	Superstructure External walls	Install Windows	People	Trade Staff (Small Electrical Equipment)	1.3888889	hrs	138.9
2 BED	Fly Screen	2.5	Superstructure External walls	Install flyscreens	People	Trade Staff (Small Electrical Equipment)	1.8	hrs	11.15
2 BED	Fly Screen	2.5	Superstructure External walls	Install flyscreens	People	Trade Staff (Small Electrical Equipment)	1.8	hrs	180.02
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Steel General Unspecified	47.55	kg	233.3
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Steel General Unspecified	47.55	kg	4.86
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Steel General Unspecified	47.55	kg	0.23
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Iron Unspecified	4.56	kg	22.55
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Iron Unspecified	4.56	kg	4.04
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Iron Unspecified	4.56	kg	0.21
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Aluminium Unspecified	2.11	kg	38.36
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Aluminium Unspecified	2.11	kg	2.03
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Aluminium Unspecified	2.11	kg	0.01
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Copper Unspecified	2.7	kg	133.51
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Copper Unspecified	2.7	kg	2.99
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Copper Unspecified	2.7	kg	0.1
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Brass	0.17	kg	8.41
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Brass	0.17	kg	0.19
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Brass	0.17	kg	0.01
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Rubber Synthetic	0.17	kg	0.8
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Rubber Synthetic	0.17	kg	0.16
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Rubber Synthetic	0.17	kg	0
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polypropylene Injection Moulding	0.51	kg	8.8
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polypropylene Injection Moulding	0.51	kg	0.55
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polypropylene Injection Moulding	0.51	kg	0.02
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics ABS Unspecified	5.07	kg	87.46
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics ABS Unspecified	5.07	kg	0.69
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics ABS Unspecified	5.07	kg	0.16
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polystyrene Expanded Polystyrene	6.26	kg	107.98
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polystyrene Expanded Polystyrene	6.26	kg	6.72
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polystyrene Expanded Polystyrene	6.26	kg	0.24
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	1.01	kg	3.6
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	1.01	kg	1.02
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	1.01	kg	0.06
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyurethane Unspecified	5.57	kg	96.08
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyurethane Unspecified	5.57	kg	5.98
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyurethane Unspecified	5.57	kg	0.22
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics General Unspecified	5.07	kg	87.46
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics General Unspecified	5.07	kg	0.69
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics General Unspecified	5.07	kg	0.2
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Fibreglass Unspecified	0.08	kg	0.86
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Fibreglass Unspecified	0.08	kg	0.08
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Fibreglass Unspecified	0.08	kg	0
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Glass Flat Glass	2.87	kg	73.77

2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Clothes washer	Material	Ferrous Metals Iron Unspecified	0.4	kg	1.98
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Clothes washer	Material	Ferrous Metals Iron Unspecified	0.4	kg	0.35
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Clothes washer	Material	Ferrous Metals Iron Unspecified	0.4	kg	0.02
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Aluminium	Material	Metals (Non-Ferous) Aluminium Unspecified	2.7	kg	49.09
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Aluminium	Material	Metals (Non-Ferous) Aluminium Unspecified	2.7	kg	2.6
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Aluminium	Material	Metals (Non-Ferous) Aluminium Unspecified	2.7	kg	0.02
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Metals (Non-Ferous) Copper Unspecified	1.2	kg	59.34
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Metals (Non-Ferous) Copper Unspecified	1.2	kg	1.33
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Metals (Non-Ferous) Copper Unspecified	1.2	kg	0.04
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Rubber Synthetic	1.1	kg	5.15
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Rubber Synthetic	1.1	kg	1.02
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Rubber Synthetic	1.1	kg	0.02
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics Polypropylene Injection Moulding	9.1	kg	156.98
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics Polypropylene Injection Moulding	9.1	kg	9.76
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics Polypropylene Injection Moulding	9.1	kg	0.35
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics Polyvinyl Chloride (PVC) Unspecified	0.5	kg	1.78
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics Polyvinyl Chloride (PVC) Unspecified	0.5	kg	0.5
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics Polyvinyl Chloride (PVC) Unspecified	0.5	kg	0.03
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics General Unspecified	0.8	kg	13.8
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics General Unspecified	0.8	kg	0.11
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics General Unspecified	0.8	kg	0.03
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	cost adjustment for extended warranty	Material	Generic Cost Adjustment Factors Cost Only Fact	84	# (Default)	84
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	cost adjustment for extended warranty	Material	Generic Cost Adjustment Factors Cost Only Fact	84	# (Default)	0.42
2 BED	Balustrade, Steel End Posts and Steel Rails	2.5.1	Superstructure External walls External enclosing walls above ground level	Brackets and bolts	Material	Ferrous Metals Steel Stainless Unspecified	2.125	kg	70.28
2 BED	Balustrade, Steel End Posts and Steel Rails	2.5.1	Superstructure External walls External enclosing walls above ground level	Brackets and bolts	Material	Ferrous Metals Steel Stainless Unspecified	2.125	kg	0.52
2 BED	Balustrade, Steel End Posts and Steel Rails	2.5.1	Superstructure External walls External enclosing walls above ground level	Brackets and bolts	Material	Ferrous Metals Steel Stainless Unspecified	2.125	kg	0.01
2 BED	Balustrade, Steel End Posts and Steel Rails	2.5.1	Superstructure External walls External enclosing walls above ground level	Hand, End and Middle Rails	Material	Ferrous Metals Steel General Unspecified	56.525	kg	277.34
2 BED	Balustrade, Steel End Posts and Steel Rails	2.5.1	Superstructure External walls External enclosing walls above ground level	Hand, End and Middle Rails	Material	Ferrous Metals Steel General Unspecified	56.525	kg	5.78
2 BED	Balustrade, Steel End Posts and Steel Rails	2.5.1	Superstructure External walls External enclosing walls above ground level	Hand, End and Middle Rails	Material	Ferrous Metals Steel General Unspecified	56.525	kg	0.27
2 BED	Shower unit	4.1	Fittings, furnishings and equipment	900mm x900mm Ceramic Shower base	Material	Ceramics Porcelain Sanitary Products General	35	kg	1106.88
2 BED	Shower unit	4.1	Fittings, furnishings and equipment	900mm x900mm Ceramic Shower base	Material	Ceramics Porcelain Sanitary Products General	35	kg	35.68
2 BED	Shower unit	4.1	Fittings, furnishings and equipment	Showerhead	Material	Ferrous Metals Steel Stainless Unspecified	1	kg	33.08
2 BED	Shower unit	4.1	Fittings, furnishings and equipment	Showerhead	Material	Ferrous Metals Steel Stainless Unspecified	1	kg	0.24
2 BED	Shower unit	4.1	Fittings, furnishings and equipment	Showerhead	Material	Ferrous Metals Steel Stainless Unspecified	1	kg	0
2 BED	Shower unit	4.1	Fittings, furnishings and equipment	Shower screens (2x sides)	Material	Glass Flat Glass	2	Count	1850.69
2 BED	Shower unit	4.1	Fittings, furnishings and equipment	Shower screens (2x sides)	Material	Glass Flat Glass	2	Count	15.69
2 BED	Shower unit	4.1	Fittings, furnishings and equipment	Shower screens (2x sides)	Material	Glass Flat Glass	2	Count	0.72
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	306.19
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	6.86
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	0.22
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5	Count	4.62
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5	Count	1.3
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5	Count	0.08
2 BED	WC	4.1	Fittings, furnishings and equipment	Toilet	Material	Ceramics Porcelain Sanitary Products Toilet	1	# (Default)	1581.25
2 BED	WC	4.1	Fittings, furnishings and equipment	Toilet	Material	Ceramics Porcelain Sanitary Products Toilet	1	# (Default)	52.93
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	306.19
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	6.86
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	0.22
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5	Count	4.62
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5	Count	1.3
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5	Count	0.08
2 BED	Wall Basin/sink (ceramic)	4.1	Fittings, furnishings and equipment	Ceramic Wall Basin	Material	Ceramics Porcelain Sanitary Products Bathroom	1	# (Default)	379.5
2 BED	Wall Basin/sink (ceramic)	4.1	Fittings, furnishings and equipment	Ceramic Wall Basin	Material	Ceramics Porcelain Sanitary Products Bathroom	1	# (Default)	12.23
2 BED	Wall Basin/sink (ceramic)	4.1	Fittings, furnishings and equipment	Taps (0.5kg each)	Material	Ferrous Metals Steel Stainless Unspecified	1	kg	33.08
2 BED	Wall Basin/sink (ceramic)	4.1	Fittings, furnishings and equipment	Taps (0.5kg each)	Material	Ferrous Metals Steel Stainless Unspecified	1	kg	0.24
2 BED	Wall Basin/sink (ceramic)	4.1	Fittings, furnishings and equipment	Taps (0.5kg each)	Material	Ferrous Metals Steel Stainless Unspecified	1	kg	0
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	306.19
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	6.86
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12	Count	0.22
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5	Count	4.62
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5	Count	1.3
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5	Count	0.08
2 BED	Bulk Insulation - 90mm Fibreglass (R2.0)	2.5.1	Superstructure External walls External enclosing walls above ground level Insulation	R2.0 fibreglass batts 90mm	Material	Insulation Blankets and Batts Glass Fibre Batts	86	Area Calculated	1421.06
2 BED	Bulk Insulation - 90mm Fibreglass (R2.0)	2.5.1	Superstructure External walls External enclosing walls above ground level Insulation	R2.0 fibreglass batts 90mm	Material	Insulation Blankets and Batts Glass Fibre Batts	86	Area Calculated	11.09
2 BED	Bulk Insulation - 90mm Fibreglass (R2.0)	2.5.1	Superstructure External walls External enclosing walls above ground level Insulation	R2.0 fibreglass batts 90mm	Material	Insulation Blankets and Batts Glass Fibre Batts	86	Area Calculated	0.36
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	Plaster-based cement for back-blocking	Material	Plaster and Mineral Derived Products 100% Primary	1892	Count	5.4
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	Plaster-based cement for back-blocking	Material	Plaster and Mineral Derived Products 100% Primary	1892	Count	1.9
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	12mm back-blocking plasterboard	Material	Plaster and Mineral Derived Products 100% Primary	15.48	m2 (Default)	160.22
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	12mm back-blocking plasterboard	Material	Plaster and Mineral Derived Products 100% Primary	15.48	m2 (Default)	9.33
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	12mm back-blocking plasterboard	Material	Plaster and Mineral Derived Products 100% Primary	15.48	m2 (Default)	5.11
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	acrylic adhesive	Material	Resins and Adhesives Epoxy Resin	1376	Count	1602.18
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	acrylic adhesive	Material	Resins and Adhesives Epoxy Resin	1376	Count	29.81
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	12mm plasterboard	Material	Plaster and Mineral Derived Products 100% Primary	86	m2 (Default)	890.1
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	12mm plasterboard	Material	Plaster and Mineral Derived Products 100% Primary	86	m2 (Default)	51.82
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	12mm plasterboard	Material	Plaster and Mineral Derived Products 100% Primary	86	m2 (Default)	28.4

2 BED	External Glass Sliding Door - commercial+hardware	2.6.2	Superstructure Windows and external doors External doors	Steel sliders and hardware	Material	Ferrous Metals Steel Stainless Unspecified	66.122449	kg	16.08
2 BED	External Glass Sliding Door - commercial+hardware	2.6.2	Superstructure Windows and external doors External doors	Steel sliders and hardware	Material	Ferrous Metals Steel Stainless Unspecified	66.122449	kg	0.32
2 BED	External Glass Sliding Door - commercial+hardware	4.1	Fittings, furnishings and equipment	Door Hardware (Handles, Hinges, Locks)	Material	Ferrous Metals Steel Stainless Unspecified	2.2040816	kg	72.9
2 BED	External Glass Sliding Door - commercial+hardware	4.1	Fittings, furnishings and equipment	Door Hardware (Handles, Hinges, Locks)	Material	Ferrous Metals Steel Stainless Unspecified	2.2040816	kg	0.54
2 BED	External Glass Sliding Door - commercial+hardware	4.1	Fittings, furnishings and equipment	Door Hardware (Handles, Hinges, Locks)	Material	Ferrous Metals Steel Stainless Unspecified	2.2040816	kg	0.01
2 BED	Windows single glazed aluminium frame individual comp	2.6.1	Superstructure Windows and external doors External windows	aluminium frame	Material	Metals (Non-Ferous) Aluminium Unspecified	34.56	kg	628.3
2 BED	Windows single glazed aluminium frame individual comp	2.6.1	Superstructure Windows and external doors External windows	aluminium frame	Material	Metals (Non-Ferous) Aluminium Unspecified	34.56	kg	33.27
2 BED	Windows single glazed aluminium frame individual comp	2.6.1	Superstructure Windows and external doors External windows	aluminium frame	Material	Metals (Non-Ferous) Aluminium Unspecified	34.56	kg	0.2
2 BED	Windows single glazed aluminium frame individual comp	2.6.1	Superstructure Windows and external doors External windows	thermal break	Material	Rubber Synthetic	3.456	kg	16.17
2 BED	Windows single glazed aluminium frame individual comp	2.6.1	Superstructure Windows and external doors External windows	thermal break	Material	Rubber Synthetic	3.456	kg	3.21
2 BED	Windows single glazed aluminium frame individual comp	2.6.1	Superstructure Windows and external doors External windows	thermal break	Material	Rubber Synthetic	3.456	kg	0.07
2 BED	Windows single glazed aluminium frame individual comp	2.6.1	Superstructure Windows and external doors External windows	window pane	Material	Glass Flat Glass	278.1	kg	7148.28
2 BED	Windows single glazed aluminium frame individual comp	2.6.1	Superstructure Windows and external doors External windows	window pane	Material	Glass Flat Glass	278.1	kg	60.59
2 BED	Windows single glazed aluminium frame individual comp	2.6.1	Superstructure Windows and external doors External windows	window pane	Material	Glass Flat Glass	278.1	kg	2.77
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	3.08
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	0.03
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	0
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	23.74
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	0.53
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	0.02
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Floor tiles	Material	Ceramics Tiles Ceramic Tiles	10	Count	552
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Floor tiles	Material	Ceramics Tiles Ceramic Tiles	10	Count	97.32
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Floor tiles	Material	Ceramics Tiles Ceramic Tiles	10	Count	2.9
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Tile grout	Material	Cements and Limes Portland Cement Unspecifi	3.1	kg	1.8
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Tile grout	Material	Cements and Limes Portland Cement Unspecifi	3.1	kg	0.14
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Tile grout	Material	Cements and Limes Portland Cement Unspecifi	3.1	kg	0.03
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Sealant	Material	Resins and Adhesives Urea Formaldehyde	4	kg	331.2
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Sealant	Material	Resins and Adhesives Urea Formaldehyde	4	kg	6.17
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Sealant	Material	Resins and Adhesives Urea Formaldehyde	4	kg	0.16
2 BED	Footing, Strip 400 x 300 Concrete 40Mpa 3% reo by volu	1.1.1	Substructure Substructure Standard foundations	Impermeable Lining	Material	Plastics High Density Polyethylene (HDPE) Unsp	33	Count	311.08
2 BED	Footing, Strip 400 x 300 Concrete 40Mpa 3% reo by volu	1.1.1	Substructure Substructure Standard foundations	Impermeable Lining	Material	Plastics High Density Polyethylene (HDPE) Unsp	33	Count	28.54
2 BED	Footing, Strip 400 x 300 Concrete 40Mpa 3% reo by volu	1.1.1	Substructure Substructure Standard foundations	Impermeable Lining	Material	Plastics High Density Polyethylene (HDPE) Unsp	33	Count	1.74
2 BED	Poured Concrete - Foundations, 40MPa	1.1.1	Substructure Substructure Standard foundations	Pour Concrete Foundations	Material	Concrete Unreinforced Portland Cement Blends	3.96	m3	1558.14
2 BED	Poured Concrete - Foundations, 40MPa	1.1.1	Substructure Substructure Standard foundations	Pour Concrete Foundations	Material	Concrete Unreinforced Portland Cement Blends	3.96	m3	468.14
2 BED	Poured Concrete - Foundations, 40MPa	1.1.1	Substructure Substructure Standard foundations	Pour Concrete Foundations	Material	Concrete Unreinforced Portland Cement Blends	3.96	m3	182.34
2 BED	Reinforcement Bar Foundations kg	1.1.1	Substructure Substructure Standard foundations	Reinforcement Bar Foundations	Material	Ferrous Metals Steel General Unspecified	940.896	kg	4616.45
2 BED	Reinforcement Bar Foundations kg	1.1.1	Substructure Substructure Standard foundations	Reinforcement Bar Foundations	Material	Ferrous Metals Steel General Unspecified	940.896	kg	96.06
2 BED	Reinforcement Bar Foundations kg	1.1.1	Substructure Substructure Standard foundations	Reinforcement Bar Foundations	Material	Ferrous Metals Steel General Unspecified	940.896	kg	2.76
2 BED	Wall Finish - Plaster Cornices (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Cornices 25mm x 200mm	Material	Plaster and Mineral Derived Products 100% Prim	8.625	Area Calcu	30.74
2 BED	Wall Finish - Plaster Cornices (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Cornices 25mm x 200mm	Material	Plaster and Mineral Derived Products 100% Prim	8.625	Area Calcu	11.06
2 BED	Wall Finish - Plaster Cornices (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Cornices 25mm x 200mm	Material	Plaster and Mineral Derived Products 100% Prim	8.625	Area Calcu	3.5
2 BED	Wall Finish - MDF Skirtings (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Skirting Boards MDF 25mm x 150mm	Material	Timber Medium Density Fibreboard (MDF) Unsp	43.125	Linear leng	803.42
2 BED	Wall Finish - MDF Skirtings (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Skirting Boards MDF 25mm x 150mm	Material	Timber Medium Density Fibreboard (MDF) Unsp	43.125	Linear leng	14.9
2 BED	Wall Finish - MDF Skirtings (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Skirting Boards MDF 25mm x 150mm	Material	Timber Medium Density Fibreboard (MDF) Unsp	43.125	Linear leng	3.55
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	51.33
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	1.48
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	0.04
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.129375	kg	0.63
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.129375	kg	0.01
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.129375	kg	0
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	51.33
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	1.48
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	0.04
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	51.33
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	1.48
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	0.04
2 BED	Bulk Insulation - 75mm Fibreglass (R1.5)	2.5.1	Superstructure External walls External enclosing walls above ground level Insulatio	R1.5 fibreglass batts 75mm	Material	Insulation Blankets and Batts Glass Fibre Batts	51.75	Area Calcu	712.6
2 BED	Bulk Insulation - 75mm Fibreglass (R1.5)	2.5.1	Superstructure External walls External enclosing walls above ground level Insulatio	R1.5 fibreglass batts 75mm	Material	Insulation Blankets and Batts Glass Fibre Batts	51.75	Area Calcu	5.56
2 BED	Bulk Insulation - 75mm Fibreglass (R1.5)	2.5.1	Superstructure External walls External enclosing walls above ground level Insulatio	R1.5 fibreglass batts 75mm	Material	Insulation Blankets and Batts Glass Fibre Batts	51.75	Area Calcu	0.18
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	100x50mm Studs 600mm centres	Material	Timber Softwood Unspecified	35.938219	Count	820.44
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	100x50mm Studs 600mm centres	Material	Timber Softwood Unspecified	35.938219	Count	35.18
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	100x50mm Studs 600mm centres	Material	Timber Softwood Unspecified	35.938219	Count	6.95
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	600mm Nogs (100x50)	Material	Timber Softwood Unspecified	35.938219	Count	205.11
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	600mm Nogs (100x50)	Material	Timber Softwood Unspecified	35.938219	Count	8.73
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Bottom plate (100x50mm)	Material	Timber Softwood Unspecified	21.5625	Count	205.11
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Bottom plate (100x50mm)	Material	Timber Softwood Unspecified	21.5625	Count	8.8
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Bottom plate (100x50mm)	Material	Timber Softwood Unspecified	21.5625	Count	1.74
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Top Plate (100x50mm)	Material	Timber Softwood Unspecified	21.5625	Count	205.11
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Top Plate (100x50mm)	Material	Timber Softwood Unspecified	21.5625	Count	8.73
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Fastners/nails	Material	Ferrous Metals Steel General Unspecified	0.5390625	kg	2.64
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Fastners/nails	Material	Ferrous Metals Steel General Unspecified	0.5390625	kg	0.06
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Fastners/nails	Material	Ferrous Metals Steel General Unspecified	0.5390625	kg	0
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Diagonal bracing straps	Material	Ferrous Metals Steel General Unspecified	1.29375	kg	6.35
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Diagonal bracing straps	Material	Ferrous Metals Steel General Unspecified	1.29375	kg	0.13
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Diagonal bracing straps	Material	Ferrous Metals Steel General Unspecified	1.29375	kg	0

2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Waterproof membrane	Material	Plastics High Density Polyethylene (HDPE) Unsp	21.5625	Count	42.35
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Waterproof membrane	Material	Plastics High Density Polyethylene (HDPE) Unsp	21.5625	Count	3.88
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Waterproof membrane	Material	Plastics High Density Polyethylene (HDPE) Unsp	21.5625	Count	0.24
2 BED	Wall Lining - 12mm Plasterboard, paint	3.1.1	Internal finishes Wall finishes Wall finishes	Fasteners and/or nails	Material	Ferrous Metals Steel General Unspecified	2.5875	kg	12.7
2 BED	Wall Lining - 12mm Plasterboard, paint	3.1.1	Internal finishes Wall finishes Wall finishes	Fasteners and/or nails	Material	Ferrous Metals Steel General Unspecified	2.5875	kg	0.26
2 BED	Wall Lining - 12mm Plasterboard, paint	3.1.1	Internal finishes Wall finishes Wall finishes	Fasteners and/or nails	Material	Ferrous Metals Steel General Unspecified	2.5875	kg	0.01
2 BED	Wall Lining - Plasterboard (12mm)	3.1.1	Internal finishes Wall finishes Wall finishes	Plasterboard 12mm	Material	Plaster and Mineral Derived Products 100% Prim	103.5	m2 (Defau	1071.22
2 BED	Wall Lining - Plasterboard (12mm)	3.1.1	Internal finishes Wall finishes Wall finishes	Plasterboard 12mm	Material	Plaster and Mineral Derived Products 100% Prim	103.5	m2 (Defau	61.06
2 BED	Wall Lining - Plasterboard (12mm)	3.1.1	Internal finishes Wall finishes Wall finishes	Fasteners and Nails	Material	Ferrous Metals Steel General Unspecified	0.5175	kg	2.54
2 BED	Wall Lining - Plasterboard (12mm)	3.1.1	Internal finishes Wall finishes Wall finishes	Fasteners and Nails	Material	Ferrous Metals Steel General Unspecified	0.5175	kg	0.05
2 BED	Wall Lining - Plasterboard (12mm)	3.1.1	Internal finishes Wall finishes Wall finishes	Fasteners and Nails	Material	Ferrous Metals Steel General Unspecified	0.5175	kg	0
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	410.64
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	11.84
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	0.3
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	1.035	kg	5.08
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	1.035	kg	0.11
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	1.035	kg	0.01
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	410.64
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	11.84
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	0.3
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	410.64
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	11.84
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	0.3
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	hinges, runners, handles and other hardware	Material	Ferrous Metals Steel General Unspecified	10	kg	49.06
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	hinges, runners, handles and other hardware	Material	Ferrous Metals Steel General Unspecified	10	kg	1.02
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	hinges, runners, handles and other hardware	Material	Ferrous Metals Steel General Unspecified	10	kg	0.05
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	PVC feet	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection M	3	kg	10.69
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	PVC feet	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection M	3	kg	3.02
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	PVC feet	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection M	3	kg	0.19
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cabinets	Material	Timber Particle Board Indoor	46	Area Calcu	4342.03
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cabinets	Material	Timber Particle Board Indoor	46	Area Calcu	80.55
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cabinets	Material	Timber Particle Board Indoor	46	Area Calcu	19.19
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard	Material	Timber Medium Density Fibreboard (MDF) Unsp	1	Count	53.65
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard	Material	Timber Medium Density Fibreboard (MDF) Unsp	1	Count	1
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard	Material	Timber Medium Density Fibreboard (MDF) Unsp	1	Count	0.24
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard covering	Material	Metals (Non-Ferous) Aluminium Unspecified	1	Count	13.25
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard covering	Material	Metals (Non-Ferous) Aluminium Unspecified	1	Count	0.7
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard covering	Material	Metals (Non-Ferous) Aluminium Unspecified	1	Count	0
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cabinet Coverings	Material	Resins and Adhesives Melamine Resin	46	Area Calcu	571.32
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cabinet Coverings	Material	Resins and Adhesives Melamine Resin	46	Area Calcu	7.73
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cabinet Coverings	Material	Resins and Adhesives Melamine Resin	46	Area Calcu	0.28
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Stone Benchtop	Material	Rock and Stone Polished Granite / Basalt / Mar	3.4	Area Calcu	603.51
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Stone Benchtop	Material	Rock and Stone Polished Granite / Basalt / Mar	3.4	Area Calcu	11.4
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Stone Benchtop	Material	Rock and Stone Polished Granite / Basalt / Mar	3.4	Area Calcu	9.59
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Glass Content of Benchtop	Material	Glass Flat Glass	0.2	Area Calcu	449.82
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Glass Content of Benchtop	Material	Glass Flat Glass	0.2	Area Calcu	1.54
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Glass Content of Benchtop	Material	Glass Flat Glass	0.2	Area Calcu	0.17
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Benchtop Bonding Agent	Material	Resins and Adhesives Epoxy Resin	0.4	Area Calcu	1738.8
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Benchtop Bonding Agent	Material	Resins and Adhesives Epoxy Resin	0.4	Area Calcu	23.54
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Benchtop Bonding Agent	Material	Resins and Adhesives Epoxy Resin	0.4	Area Calcu	0.84
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3.1	Superstructure Roof Roof structure	Top chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	1.3544256	m3	11565.1
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3.1	Superstructure Roof Roof structure	Top chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	1.3544256	m3	190.93
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3.1	Superstructure Roof Roof structure	Top chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	1.3544256	m3	29.74
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Bottom chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	1.3544256	m3	11565.1
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Bottom chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	1.3544256	m3	131.31
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Bottom chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	1.3544256	m3	29.74
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Stiffener Platesx8 (0.24x0.25x1.35	Material	Timber Hardwood Unspecified	0.3656949	m3	3122.58
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Stiffener Platesx8 (0.24x0.25x1.35	Material	Timber Hardwood Unspecified	0.3656949	m3	35.45
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Stiffener Platesx8 (0.24x0.25x1.35	Material	Timber Hardwood Unspecified	0.3656949	m3	8.03
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Uprightsx18 (0.24x0.025x0.5)	Material	Timber Hardwood Unspecified	0.3047458	m3	2602.15
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Uprightsx18 (0.24x0.025x0.5)	Material	Timber Hardwood Unspecified	0.3047458	m3	29.54
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Uprightsx18 (0.24x0.025x0.5)	Material	Timber Hardwood Unspecified	0.3047458	m3	6.69
2 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	1m of 3mm thick semi circular gutter (112mm	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	32.912	Count	85.43
2 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	1m of 3mm thick semi circular gutter (112mm	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	32.912	Count	24.1
2 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	1m of 3mm thick semi circular gutter (112mm	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	32.912	Count	1.52
2 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	Screws, bolts & fixings	Material	Ferrous Metals Steel Galvanised Structural Un	0.98736	kg	18.84
2 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	Screws, bolts & fixings	Material	Ferrous Metals Steel Galvanised Structural Un	0.98736	kg	0.17
2 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	Screws, bolts & fixings	Material	Ferrous Metals Steel Galvanised Structural Un	0.98736	kg	0
2 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	0.48mm corrugated/CustomOrb sheet	Material	Ferrous Metals Steel Coated Sheet Zinc Coate	479.1329	kg	12451.47
2 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	0.48mm corrugated/CustomOrb sheet	Material	Ferrous Metals Steel Coated Sheet Zinc Coate	479.1329	kg	99.52
2 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	0.48mm corrugated/CustomOrb sheet	Material	Ferrous Metals Steel Coated Sheet Zinc Coate	479.1329	kg	2.33
2 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	Fastenings	Material	Ferrous Metals Steel Stainless Unspecified	0.971872	kg	32.14
2 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	Fastenings	Material	Ferrous Metals Steel Stainless Unspecified	0.971872	kg	0.24
2 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	Fastenings	Material	Ferrous Metals Steel Stainless Unspecified	0.971872	kg	0
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	R1.3 glasswool blanket	Material	Insulation Blankets and Batts Glass Fibre Batts	97.1872	Count	1070.61

2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	R1.3 glasswool blanket	Material	Insulation Blankets and Batts Glass Fibre Batts	97.1872	Count	8.35
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	R1.3 glasswool blanket	Material	Insulation Blankets and Batts Glass Fibre Batts	97.1872	Count	0.27
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil lining	Material	Metals (Non-Ferous) Aluminium Unspecified	97.1872	Count	2385.27
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil lining	Material	Metals (Non-Ferous) Aluminium Unspecified	97.1872	Count	126.32
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil lining	Material	Metals (Non-Ferous) Aluminium Unspecified	97.1872	Count	0.75
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil glue	Material	Resins and Adhesives Melamine Resin	97.1872	Count	2414.13
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil glue	Material	Resins and Adhesives Melamine Resin	97.1872	Count	44.94
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil glue	Material	Resins and Adhesives Melamine Resin	97.1872	Count	1.16
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Web	Material	Timber Plywood Unspecified	194.36	Count	2673.35
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Web	Material	Timber Plywood Unspecified	194.36	Count	42
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Web	Material	Timber Plywood Unspecified	194.36	Count	9.34
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Glue	Material	Resins and Adhesives Urea Formaldehyde	86	Count	356.04
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Glue	Material	Resins and Adhesives Urea Formaldehyde	86	Count	6.63
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Glue	Material	Resins and Adhesives Urea Formaldehyde	86	Count	0.17
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Bearers / End Caps	Material	Timber Glue Laminated Unspecified	1.72	m3	10681.2
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Bearers / End Caps	Material	Timber Glue Laminated Unspecified	1.72	m3	169.2
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Bearers / End Caps	Material	Timber Glue Laminated Unspecified	1.72	m3	37.77
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Hangers, Bolts, brackets and nails	Material	Ferrous Metals Steel General Unspecified	2.58	kg	12.66
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Hangers, Bolts, brackets and nails	Material	Ferrous Metals Steel General Unspecified	2.58	kg	0.26
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Hangers, Bolts, brackets and nails	Material	Ferrous Metals Steel General Unspecified	2.58	kg	0.01
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Liquid Nails type Adhesive	Material	Resins and Adhesives Urea Formaldehyde	1.72	kg	142.42
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Liquid Nails type Adhesive	Material	Resins and Adhesives Urea Formaldehyde	1.72	kg	2.65
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Flanges	Material	Timber Softwood Unspecified	388.72	Count	4525.83
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Flanges	Material	Timber Softwood Unspecified	388.72	Count	194.08
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructu	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Flanges	Material	Timber Softwood Unspecified	388.72	Count	38.31
2 BED	Floor Covering - 19mm particle/chipboard flooring (Subst	1.1.3	Substructure Substructure Lowest floor construction	Glue	Material	Plastics Polyurethane Unspecified	25.8	kg	445.05
2 BED	Floor Covering - 19mm particle/chipboard flooring (Subst	1.1.3	Substructure Substructure Lowest floor construction	Glue	Material	Plastics Polyurethane Unspecified	25.8	kg	27.68
2 BED	Floor Covering - 19mm particle/chipboard flooring (Subst	1.1.3	Substructure Substructure Lowest floor construction	Glue	Material	Plastics Polyurethane Unspecified	25.8	kg	1
2 BED	Floor Covering - 19mm particle/chipboard flooring (Subst	1.1.3	Substructure Substructure Lowest floor construction	Hangers, Bolts, brackets and nails	Material	Ferrous Metals Steel General Unspecified	0.86	kg	4.22
2 BED	Floor Covering - 19mm particle/chipboard flooring (Subst	1.1.3	Substructure Substructure Lowest floor construction	Hangers, Bolts, brackets and nails	Material	Ferrous Metals Steel General Unspecified	0.86	kg	0.09
2 BED	Floor Covering - 19mm particle/chipboard flooring (Subst	1.1.3	Substructure Substructure Lowest floor construction	Hangers, Bolts, brackets and nails	Material	Ferrous Metals Steel General Unspecified	0.86	kg	0
2 BED	Floor Covering - 19mm particle/chipboard flooring (Subst	1.1.3	Substructure Substructure Lowest floor construction	19mm Particleboard	Material	Timber Medium Density Fibreboard (MDF) Unsp	86	Count	8117.71
2 BED	Floor Covering - 19mm particle/chipboard flooring (Subst	1.1.3	Substructure Substructure Lowest floor construction	19mm Particleboard	Material	Timber Medium Density Fibreboard (MDF) Unsp	86	Count	150.59
2 BED	Floor Covering - 19mm particle/chipboard flooring (Subst	1.1.3	Substructure Substructure Lowest floor construction	19mm Particleboard	Material	Timber Medium Density Fibreboard (MDF) Unsp	86	Count	35.88
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	Waterproof membrane	Material	Plastics High Density Polyethylene (HDPE) Unsp	128.7	Count	252.76
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	Waterproof membrane	Material	Plastics High Density Polyethylene (HDPE) Unsp	128.7	Count	23.19
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	Waterproof membrane	Material	Plastics High Density Polyethylene (HDPE) Unsp	128.7	Count	1.41
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	CLT Structure	Material	Timber Cross Laminated Timber Unspecified	2.053	m3	11086.2
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	CLT Structure	Material	Timber Cross Laminated Timber Unspecified	2.053	m3	196.83
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	Fasteners / nails	Material	Ferrous Metals Steel General Unspecified	12.87	kg	63.15
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	Fasteners / nails	Material	Ferrous Metals Steel General Unspecified	12.87	kg	1.32
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	Fasteners / nails	Material	Ferrous Metals Steel General Unspecified	12.87	kg	0.06
2 BED	Windows, Residential Aluminium Double Glaze, fly screen	2.6.1	Superstructure Windows and external doors External windows	Windows / Sliding Doors	Material	Windows Aluminium Framed No Thermal Break	4	m2 (Defau	2466.98
2 BED	Windows, Residential Aluminium Double Glaze, fly screen	2.6.1	Superstructure Windows and external doors External windows	Windows / Sliding Doors	Material	Windows Aluminium Framed No Thermal Break	4	m2 (Defau	114.95
2 BED	Windows, Residential Aluminium Double Glaze, fly screen	2.6.1	Superstructure Windows and external doors External windows	Windows / Sliding Doors	Material	Windows Aluminium Framed No Thermal Break	4	m2 (Defau	0.46
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Scr	Fly screen frame	Material	Metals (Non-Ferous) Aluminium Unspecified	2	kg	36.36
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Scr	Fly screen frame	Material	Metals (Non-Ferous) Aluminium Unspecified	2	kg	1.93
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Scr	Fly screen frame	Material	Metals (Non-Ferous) Aluminium Unspecified	2	kg	0.01
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Scr	Flyscreen Mesh	Material	Plastics General Unspecified	2	Count	23.81
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Scr	Flyscreen Mesh	Material	Plastics General Unspecified	2	Count	0.19
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Scr	Flyscreen rubber spline	Material	Rubber Synthetic	1	kg	4.68
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Scr	Flyscreen rubber spline	Material	Rubber Synthetic	1	kg	0.93
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.0)	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient than MEPS 2.0)	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS 2.0)	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient than MEPS 2.0)	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76

2 BED	FINAL DESIGN		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN		7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2)	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN		6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient)	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN		6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS)	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN		11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN		15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN		15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN		15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN		15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	77.55
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	45.23
2 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2		Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6		Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel General Unspecified	15.4	kg	70.84
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Zinc	0.02	kg	0.25
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Aluminium Unspecified	0.39	kg	6.92
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Copper Unspecified	0.92	kg	42.29
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics High Density Polyethylene (HDPE) Unsp	0.02	kg	0.23
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection M	0.66	kg	2.94
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polypropylene Injection Moulding	8.81	kg	147.12
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics ABS Unspecified	0.8	kg	12.66
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel Stainless Unspecified	7.42	kg	223.18
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1	kg	16.7
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics General Unspecified	1.16	kg	18.39
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Asphalt and Bitumen Asphalt Unspecified	9.5	kg	2.62
2 BED	Dishwasher Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1.018	kg	17
2 BED	FINAL DESIGN		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN		7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2)	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN		6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient)	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN		6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS)	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN		11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN		15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN		15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN		15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN		15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Refrigerator	People	Trade Staff (Small Electrical Equipment)	0.25	hrs	24.1
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Manufacture fridge	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1		Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	HWS - Electric Instantaneous		5	Services equipment	Plumber for HWS installation	People	Trade Staff (Small Electrical Equipment)	4	hrs	274.13
2 BED	HWS - Electric Instantaneous		5	Services equipment	Hot Water Unit Assembly	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
2 BED	Clothes washer Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	57.44
2 BED	Clothes washer Em	4.1.2		Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
2 BED	Internal Finish - Paint Assembly Only		3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	9.675	hrs	659.93
2 BED	External Finish - Paint (SuperStructure)		2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	1.4175	hrs	101.95
2 BED	External Finish - Paint (SuperStructure)		2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.70875	hrs	54.69
2 BED	Internal Finish - Paint Assembly Only		3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	3.024	hrs	209.06
2 BED	Fire Services Fire sprinkler		5	Services equipment	Install sprinkler	People	Trade Staff (Small Electrical Equipment)	0.4998	hrs	40.76
2 BED	Fire Services Fire sprinkler		5	Services equipment	Manufactur sprinkler	Equipment	Offsite Manufacturing / Prefabrication Process	1.00002	hrs	6.7
2 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2		Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	Internal Finish - Paint Assembly Only		3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.4554688	hrs	104.48
2 BED	Internal Finish - Paint Assembly Only		3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	11.64375	hrs	791.2

2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Steel General Unspecified	47.55	kg	162.01
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Iron Unspecified	4.56	kg	19.76
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Aluminium Unspecified	2.11	kg	27.74
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Copper Unspecified	2.7	kg	91.93
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Brass	0.17	kg	5.79
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Rubber Synthetic	0.17	kg	0.66
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polypropylene Injection Moulding	0.51	kg	6.31
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics ABS Unspecified	5.07	kg	59.43
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polystyrene Expanded Polystyrene	6.26	kg	77.44
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection M	1.01	kg	3.33
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyurethane Unspecified	5.57	kg	68.9
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics General Unspecified	5.07	kg	59.55
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Fibreglass Unspecified	0.08	kg	0.64
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Glass Flat Glass	2.87	kg	50
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerant R134	Material	Gases Refrigerants R-134a (HFC-134a)	0.15	kg	8.31
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	HWS - Electric Instantaneous	5.1	Services equipment Sanitary installations	Housing etc	Material	Ferrous Metals Steel General Unspecified	15	kg	51.11
2 BED	HWS - Electric Instantaneous	5.1	Services equipment Sanitary installations	Electric Heating Element etc	Material	Metals (Non-Ferous) Copper Unspecified	5	kg	170.25
2 BED	HWS - Electric Instantaneous	5.1	Services equipment Sanitary installations	Insulation	Material	Insulation Rigid Foams and Boards Polyurethane	3.29	Count	9.98
2 BED	Lighting Residential CFL Med Natural Light	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Globes For Internal Fittings	Material	Finished Products Electrical Goods Light Fittings	0.012625	kg	0.04
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Clothes washer	Material	Ferrous Metals Steel General Unspecified	43	kg	146.51
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Clothes washer	Material	Ferrous Metals Iron Unspecified	0.4	kg	1.73
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Aluminium	Material	Metals (Non-Ferous) Aluminium Unspecified	2.7	kg	35.5
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Metals (Non-Ferous) Copper Unspecified	1.2	kg	40.86
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Rubber Synthetic	1.1	kg	4.11
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Plastics Polypropylene Injection Moulding	9.1	kg	112.57
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Plastics Polyvinyl Chloride (PVC) Unspecified	0.5	kg	1.65
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Plastics General Unspecified	0.8	kg	9.4
2 BED	150mm Internal Diameter Poly sewer pipe	8.6	External works External drainage	Polypropelene pipe 150mm ID	Material	Plastics Polypropylene Injection Moulding	20	Linear leng	230.15
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	86	m2 (Defau	235.3
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	18.9	m2 (Defau	51.71
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	26.88	m2 (Defau	73.55
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	2.09
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	16.34
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	35.4
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	283.18
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59

2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Ceramic glass cooktop	Material	Glass Flat Glass	6	kg	135.88
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker casing	Material	Ferrous Metals Steel Stainless Unspecified	43	kg	1245.46
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Metals (Non-Ferous) Aluminium Unspecified	0.09	kg	1.54
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Paints and Finishes Unspecified 1 Coat	7.2	kg	256.1
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Metals (Non-Ferous) Copper Unspecified	0.18	kg	7.97
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Insulation Blankets and Batts Mineral Wool Bl	1.1	kg	14.89
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection M	0.12	kg	0.51
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Metals (Non-Ferous) Zinc	0.2	kg	2.47
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Plastics Polystyrene Expanded Polystyrene	1	kg	16.08
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Plant Based Products (non Timber) Paper Gene	4	kg	10.64
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92

2 BED	FINAL DESIGN		6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN		11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN		15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN		15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN		15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN		15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Cooking Res, stove and oven Em		4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Cooker	People	Trade Staff (Small Electrical Equipment)	0.2	hrs	15.58
2 BED	Cooking Res, stove and oven Em		4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the cooker	Equipment	Offsite Manufacturing / Prefabrication Process	20	hrs	100.5
2 BED	Lighting Residential CFL Med Natural Light		4	Fittings, furnishings and equipment	Electrician Fit Lights	People	Trade Staff (Small Electrical Equipment)	0.0625	hrs	8.7
2 BED	Lighting Residential CFL Med Natural Light		4	Fittings, furnishings and equipment	Change Light Bulbs	People	Trade Staff (No Equipment, labour transport only)	0.0111111	hrs	6.21
2 BED	Wall Basin/sink (ceramic)		5.1	Services equipment Sanitary installations	Plumber fit tap set	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	30.58
2 BED	Electrical Fittings - sockets, power points, wiring, embodie		5	Services equipment	Electrician	People	Trade Staff (Small Electrical Equipment)	35.83333	hrs	1819.72
2 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	Lighting Residential CFL Med Natural Light		4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light fitting	Material	Ferrous Metals Steel Coated Sheet Zinc Coate	0.0375	kg	0.49
2 BED	Lighting Residential CFL Med Natural Light		4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Glass Flat Glass	0.01875	kg	0.24
2 BED	Wall Basin/sink (ceramic)		4.1	Fittings, furnishings and equipment	Taps (0.5kg each)	Material	Ferrous Metals Steel Stainless Unspecified	1	kg	16.71
2 BED	Electrical Fittings - sockets, power points, wiring, embodie		4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Plastics General Unspecified	2.2395833	kg	19.73
2 BED	Floor Covering - Tiles (ceramic/5mm)		3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Sealant	Material	Resins and Adhesives Urea Formaldehyde	4	kg	169.16
2 BED	FINAL DESIGN		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN		7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN		6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN		6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN		11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN		15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN		15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN		15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN		15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	FINAL DESIGN		3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN		3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN		2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN		5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN		5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN		7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN		7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN		6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN		6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN		11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN		15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN		15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN		15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN		15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN		15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN		16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Fire Services Fire sprinkler		5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler		5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)		5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46

2 BED	FINAL DESIGN		3 Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165 MJ/year	69.51
2 BED	FINAL DESIGN		3 Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240 MJ/year	25.26
2 BED	FINAL DESIGN		2 Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55 MJ/year	368.25
2 BED	FINAL DESIGN		5 Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822 MJ/year	60.27
2 BED	FINAL DESIGN		5 Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333 MJ/year	20.09
2 BED	FINAL DESIGN		7 Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045 MJ/year	56.81
2 BED	FINAL DESIGN		7 Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2)	Operational	AU WA SWIS Residential	4314.67 MJ/year	60.52
2 BED	FINAL DESIGN		6 Appliances Laundry Appliances	Clothes washing machine (79% more efficient)	Operational	AU WA SWIS Residential	1919.3667 MJ/year	26.92
2 BED	FINAL DESIGN		6 Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS)	Operational	AU WA SWIS Residential	1085.3867 MJ/year	15.24
2 BED	FINAL DESIGN		11 Miscellaneous	Dishwashing machines (35% more efficient than MEPS)	Operational	AU WA SWIS Residential	1659 MJ/year	40.2
2 BED	FINAL DESIGN		15 Water Supply	Miscellaneous	OperationalWater	Water Supply: General	50	3.75
2 BED	FINAL DESIGN		16 Water Removal and Treatment	Miscellaneous	OperationalWater	Water Treatment: General	50	3.75
2 BED	FINAL DESIGN		15 Water Supply	Toilets	OperationalWater	Water Supply: General	120	9
2 BED	FINAL DESIGN		16 Water Removal and Treatment	Toilet	OperationalWater	Water Treatment: General	120	9
2 BED	FINAL DESIGN		15 Water Supply	Residential Shower	OperationalWater	Water Supply: General	180.36	29.59
2 BED	FINAL DESIGN		16 Water Removal and Treatment	Residential Shower	OperationalWater	Water Treatment: General	180.36	29.59
2 BED	FINAL DESIGN		15 Water Supply	Residential Kitchen and Dishwasher	OperationalWater	Water Supply: General	22.545	3.7
2 BED	FINAL DESIGN		16 Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWater	Water Treatment: General	22.545	3.7
2 BED	FINAL DESIGN		15 Water Supply	Residential Laundry	OperationalWater	Water Supply: General	50.045	5.76
2 BED	FINAL DESIGN		16 Water Removal and Treatment	Residential Laundry	OperationalWater	Water Treatment: General	50.045	5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5 hrs	61.16
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75 hrs	77.55
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Process	5 hrs	45.23
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4	Fittings, furnishings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75 hrs	51.7
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4	Fittings, furnishings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Process	5 hrs	30.15
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198 hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18 hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44 kg	0.46
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel General Unspecified	15.4 kg	70.84
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Zinc	0.02 kg	0.25
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Aluminium Unspecified	0.39 kg	6.92
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Copper Unspecified	0.92 kg	42.29
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics High Density Polyethylene (HDPE) Unsp	0.02 kg	0.23
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	0.66 kg	2.94
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polypropylene Injection Moulding	8.81 kg	147.12
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics ABS Unspecified	0.8 kg	12.66
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel Stainless Unspecified	7.42 kg	223.18
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1 kg	16.7
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics General Unspecified	1.16 kg	18.39
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Asphalt and Bitumen Asphalt Unspecified	9.5 kg	2.62
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1.018 kg	17
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel General Unspecified	15.4 kg	47.22
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Zinc	0.02 kg	0.17
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Aluminium Unspecified	0.39 kg	4.62
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Copper Unspecified	0.92 kg	28.19
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics High Density Polyethylene (HDPE) Unsp	0.02 kg	0.15
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection Moulding	0.66 kg	1.96
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polypropylene Injection Moulding	8.81 kg	98.08
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics ABS Unspecified	0.8 kg	8.44
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel Stainless Unspecified	7.42 kg	148.79
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1 kg	11.13
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics General Unspecified	1.16 kg	12.26
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Asphalt and Bitumen Asphalt Unspecified	9.5 kg	1.75
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1.018 kg	11.33
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cost adjustment for extended warranty	Material	Generic Cost Adjustment Factors Cost Only Factors	106 # (Default)	63.92
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.86 kg	2.56
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Consumables (Paint tins, rollers, etc)	Material	Ferrous Metals Steel General Unspecified	0.189 kg	0.56
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.2688 kg	0.8
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.129375 kg	0.39
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	1.035 kg	3.09
2 BED	FINAL DESIGN		3 Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165 MJ/year	69.51
2 BED	FINAL DESIGN		3 Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240 MJ/year	25.26
2 BED	FINAL DESIGN		2 Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55 MJ/year	368.25
2 BED	FINAL DESIGN		5 Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822 MJ/year	60.27
2 BED	FINAL DESIGN		5 Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333 MJ/year	20.09
2 BED	FINAL DESIGN		7 Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045 MJ/year	56.81
2 BED	FINAL DESIGN		7 Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2)	Operational	AU WA SWIS Residential	4314.67 MJ/year	60.52
2 BED	FINAL DESIGN		6 Appliances Laundry Appliances	Clothes washing machine (79% more efficient)	Operational	AU WA SWIS Residential	1919.3667 MJ/year	26.92
2 BED	FINAL DESIGN		6 Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS)	Operational	AU WA SWIS Residential	1085.3867 MJ/year	15.24
2 BED	FINAL DESIGN		11 Miscellaneous	Dishwashing machines (35% more efficient than MEPS)	Operational	AU WA SWIS Residential	1659 MJ/year	40.2
2 BED	FINAL DESIGN		15 Water Supply	Miscellaneous	OperationalWater	Water Supply: General	50	3.75
2 BED	FINAL DESIGN		16 Water Removal and Treatment	Miscellaneous	OperationalWater	Water Treatment: General	50	3.75
2 BED	FINAL DESIGN		15 Water Supply	Toilets	OperationalWater	Water Supply: General	120	9
2 BED	FINAL DESIGN		16 Water Removal and Treatment	Toilet	OperationalWater	Water Treatment: General	120	9
2 BED	FINAL DESIGN		15 Water Supply	Residential Shower	OperationalWater	Water Supply: General	180.36	29.59

2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Refrigerator	People	Trade Staff (Small Electrical Equipment)	0.25	hrs	24.1
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Manufacture fridge	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5	Services equipment	Airconditioning Factory Processes	Equipment	Offsite Manufacturing / Prefabrication Process	20	hrs	134
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5	Services equipment	Install Airconditioning Unit	People	Trade Staff (Small Electrical Equipment)	2	hrs	140.78
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	HWS - Electric Instantaneous	5	Services equipment	Plumber for HWS installation	People	Trade Staff (Small Electrical Equipment)	4	hrs	274.13
2 BED	HWS - Electric Instantaneous	5	Services equipment	Hot Water Unit Assembly	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	57.44
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4	Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	57.44
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4	Fittings, furnishings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4	Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	57.44
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4	Fittings, furnishings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	9.675	hrs	659.93
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	9.675	hrs	659.93
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	1.4175	hrs	101.95
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	1.4175	hrs	101.95
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	0.70875	hrs	54.69
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.70875	hrs	54.69
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	3.024	hrs	209.06
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	3.024	hrs	209.06
2 BED	Fire Services Fire sprinkler	5	Services equipment	Install sprinkler	People	Trade Staff (Small Electrical Equipment)	0.4998	hrs	40.76
2 BED	Fire Services Fire sprinkler	5	Services equipment	Manufactur sprinkler	Equipment	Offsite Manufacturing / Prefabrication Process	1.00002	hrs	6.7
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	1.4554688	hrs	104.48
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.4554688	hrs	104.48
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	11.64375	hrs	791.2
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	11.64375	hrs	791.2
2 BED	Fly Screen	2.5	Superstructure External walls	Install flyscreens	People	Trade Staff (Small Electrical Equipment)	1.8	hrs	127.45
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Steel General Unspecified	47.55	kg	162.01
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Ferrous Metals Iron Unspecified	4.56	kg	19.76
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Aluminium Unspecified	2.11	kg	27.74
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Copper Unspecified	2.7	kg	91.93
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Metals (Non-Ferous) Brass	0.17	kg	5.79
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Rubber Synthetic	0.17	kg	0.66
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polypropylene Injection Moulding	0.51	kg	6.31
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics ABS Unspecified	5.07	kg	59.43
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polystyrene Expanded Polystyrene	6.26	kg	77.44
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection M	1.01	kg	3.33
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics Polyurethane Unspecified	5.57	kg	68.9
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Plastics General Unspecified	5.07	kg	59.55
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Fibreglass Unspecified	0.08	kg	0.64
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerator unit	Material	Glass Flat Glass	2.87	kg	50
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Refrigerant R134	Material	Gases Refrigerants R-134a (HFC-134a)	0.15	kg	8.31
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning External Unit	Material	Ferrous Metals Steel Coated Sheet Zinc Coate	1	kg	17.5

2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning External Unit	Material	Metals (Non-Ferous) Copper Unspecified	2.5	kg	85.12
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning External Unit	Material	Ferrous Metals Steel General Unspecified	5	kg	17.04
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning External Unit	Material	Plastics General Unspecified	5	kg	58.73
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning External Unit	Material	Rubber Synthetic	1	kg	3.88
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning External Unit	Material	Ferrous Metals Steel General Unspecified	8	kg	27.26
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning Internal Unit	Material	Plastics General Unspecified	3	kg	35.24
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning Internal Unit	Material	Metals (Non-Ferous) Copper Unspecified	2.5	kg	85.12
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Airconditioning Internal Unit and Hoses	Material	Rubber Synthetic	5	kg	19.39
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Pipe Insulation	Material	Insulation Rigid Foams and Boards Polyethylene	0.5	kg	0.67
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	30.59
2 BED	HWS - Electric Instantaneous	5.1	Services equipment Sanitary installations	Housing etc	Material	Ferrous Metals Steel General Unspecified	15	kg	51.11
2 BED	HWS - Electric Instantaneous	5.1	Services equipment Sanitary installations	Electric Heating Element etc	Material	Metals (Non-Ferous) Copper Unspecified	5	kg	170.25
2 BED	HWS - Electric Instantaneous	5.1	Services equipment Sanitary installations	Insulation	Material	Insulation Rigid Foams and Boards Polyurethane	3.29	Count	9.98
2 BED	Lighting Residential CFL Med Natural Light	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Globes For Internal Fittings	Material	Finished Products Electrical Goods Light Fittings	0.012625	kg	0.04
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Clothes washer	Material	Ferrous Metals Steel General Unspecified	43	kg	146.51
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Clothes washer	Material	Ferrous Metals Iron Unspecified	0.4	kg	1.73
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Aluminium	Material	Metals (Non-Ferous) Aluminium Unspecified	2.7	kg	35.5
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Metals (Non-Ferous) Copper Unspecified	1.2	kg	40.86
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Rubber Synthetic	1.1	kg	4.11
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Plastics Polypropylene Injection Moulding	9.1	kg	112.57
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Plastics Polyvinyl Chloride (PVC) Unspecified	0.5	kg	1.65
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Washing Machine	Material	Plastics General Unspecified	0.8	kg	9.4
2 BED	150mm Internal Diameter Poly sewer pipe	8.6	External works External drainage	Polypropelene pipe 150mm ID	Material	Plastics Polypropylene Injection Moulding	20	Linear leng	230.15
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Clothes washer	Material	Ferrous Metals Steel General Unspecified	43	kg	146.51
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Clothes washer	Material	Ferrous Metals Iron Unspecified	0.4	kg	1.73
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Aluminium	Material	Metals (Non-Ferous) Aluminium Unspecified	2.7	kg	35.5
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Metals (Non-Ferous) Copper Unspecified	1.2	kg	40.86
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Rubber Synthetic	1.1	kg	4.27
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics Polypropylene Injection Moulding	9.1	kg	112.57
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics Polyvinyl Chloride (PVC) Unspecified	0.5	kg	1.65
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics General Unspecified	0.8	kg	9.4
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	cost adjustment for extended warranty	Material	Generic Cost Adjustment Factors Cost Only Fact	84	# (Default)	56.28
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Clothes washer	Material	Ferrous Metals Steel General Unspecified	43	kg	146.51
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Clothes washer	Material	Ferrous Metals Iron Unspecified	0.4	kg	1.73
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Aluminium	Material	Metals (Non-Ferous) Aluminium Unspecified	2.7	kg	35.5
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Metals (Non-Ferous) Copper Unspecified	1.2	kg	40.86
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Rubber Synthetic	1.1	kg	4.27
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics Polypropylene Injection Moulding	9.1	kg	112.57
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics Polyvinyl Chloride (PVC) Unspecified	0.5	kg	1.65
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	Washing Machine	Material	Plastics General Unspecified	0.8	kg	9.4
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4.1	Fittings, furnishings and equipment	cost adjustment for extended warranty	Material	Generic Cost Adjustment Factors Cost Only Fact	84	# (Default)	56.28
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	86	m2 (Defau	235.3
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	86	m2 (Defau	235.3
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	18.9	m2 (Defau	51.71
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	18.9	m2 (Defau	51.71
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	26.88	m2 (Defau	73.55
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	26.88	m2 (Defau	73.55
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	2.09
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	16.34
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	35.4
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	35.4
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	283.18
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	283.18
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Scr	Fly screen frame	Material	Metals (Non-Ferous) Aluminium Unspecified	2	kg	26.3
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Scr	Flyscreen Mesh	Material	Plastics General Unspecified	2	Count	15.99
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Scr	Flyscreen rubber spline	Material	Rubber Synthetic	1	kg	3.74
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7

2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2)	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient)	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS)	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient than MEPS)	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWater	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWater	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWater	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWater	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWater	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWater	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWater	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWater	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWater	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	OperationalWater	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Shower unit	5.1	Services equipment Sanitary installations	Plumber to fit shower tap combination set	People	Trade Staff (Small Electrical Equipment)	1	hrs	92.64
2 BED	Shower unit	5.1	Services equipment Sanitary installations	Fit shower enclosure	People	Trade Staff (Small Electrical Equipment)	3	hrs	259.32
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	Kitchen cabinetry (stone benchtop), medium	4	Fittings, furnishings and equipment	assembly	People	Trade Staff (Small Electrical Equipment)	8	hrs	676.03
2 BED	Kitchen cabinetry (stone benchtop), medium	4	Fittings, furnishings and equipment	hardware, plastic, misc	Equipment	Offsite Manufacturing / Prefabrication Process	4	hrs	33.5
2 BED	Engineered Stone Benchtop	4.1	Fittings, furnishings and equipment	Benchtop Manufacturing	Equipment	Offsite Manufacturing / Prefabrication Process	0.8	hrs	6.7
2 BED	Engineered Stone Benchtop	4.1	Fittings, furnishings and equipment	Installation	People	Trade Staff (Small Electrical Equipment)	0.4	hrs	42.63
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	Shower unit	4.1	Fittings, furnishings and equipment	Showerhead	Material	Ferrous Metals Steel Stainless Unspecified	1	kg	27.85
2 BED	Shower unit	4.1	Fittings, furnishings and equipment	Shower screens (2x sides)	Material	Glass Flat Glass	2	Count	1567.87
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	hinges, runners, handles and other hardware	Material	Ferrous Metals Steel General Unspecified	10	kg	42.59
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	PVC feet	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection Molding	3	kg	12.38
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard	Material	Timber Medium Density Fibreboard (MDF) Unspecified	1	Count	47.06
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard covering	Material	Metals (Non-Ferous) Aluminium Unspecified	1	Count	11.98
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cabinet Coverings	Material	Resins and Adhesives Melamine Resin	46	Area Calculated	483.92
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Stone Benchtop	Material	Rock and Stone Polished Granite / Basalt / Marble	3.4	Area Calculated	573.71
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Glass Content of Benchtop	Material	Glass Flat Glass	0.2	Area Calculated	379.18
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Benchtop Bonding Agent	Material	Resins and Adhesives Epoxy Resin	0.4	Area Calculated	1472.8
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2)	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient)	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS)	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient than MEPS)	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWater	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWater	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWater	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWater	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWater	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWater	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWater	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWater	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWater	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	OperationalWater	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Ceramic glass cooktop	Material	Glass Flat Glass	6	kg	135.88
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker casing	Material	Ferrous Metals Steel Stainless Unspecified	43	kg	1245.46
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Metals (Non-Ferous) Aluminium Unspecified	0.09	kg	1.54
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Paints and Finishes Unspecified 1 Coat	7.2	kg	256.1
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Metals (Non-Ferous) Copper Unspecified	0.18	kg	7.97
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Insulation Blankets and Batts Mineral Wool Blended	1.1	kg	14.89
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection Molding	0.12	kg	0.51
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Metals (Non-Ferous) Zinc	0.2	kg	2.47

2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Plastics Polystyrene Expanded Polystyrene	1	kg	16.08
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cooker	Material	Plant Based Products (non Timber) Paper Gene	4	kg	10.64
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	77.55
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	45.23
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel General Unspecified	15.4	kg	70.84
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Zinc	0.02	kg	0.25
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Aluminium Unspecified	0.39	kg	6.92
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Metals (Non-Ferous) Copper Unspecified	0.92	kg	42.29
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics High Density Polyethylene (HDPE) Unsp	0.02	kg	0.23
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection M	0.66	kg	2.94
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polypropylene Injection Moulding	8.81	kg	147.12
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics ABS Unspecified	0.8	kg	12.66
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Ferrous Metals Steel Stainless Unspecified	7.42	kg	223.18
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1	kg	16.7
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics General Unspecified	1.16	kg	18.39
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Asphalt and Bitumen Asphalt Unspecified	9.5	kg	2.62
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Dishwasher	Material	Plastics Polystyrene Expanded Polystyrene	1.018	kg	17
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient th	Operational	AU WA SWIS Residential	1659	MJ/year	40.2

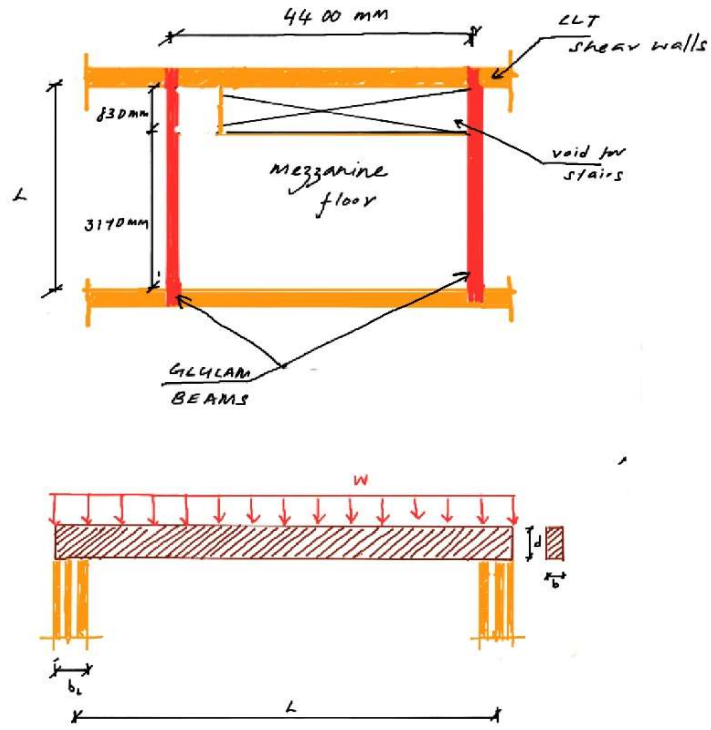
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.6	Services equipment Space heating and air conditioning	Refrigerant	Material	Gases Refrigerants R-410A (Puron, AZ-20)	1.44	kg	0.46
2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2)	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient than MEPS 2.2)	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS 2.2)	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient than MEPS 2.2)	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	OperationalWate	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	OperationalWate	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	OperationalWate	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	OperationalWate	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	OperationalWate	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	OperationalWate	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	OperationalWate	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	OperationalWate	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	OperationalWate	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	OperationalWate	Water Treatment: General	50.045		5.76
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Refrigerator	People	Trade Staff (Small Electrical Equipment)	0.25	hrs	24.1
2 BED	Refrigeration, Residential Detailed (AUS) Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Manufacture fridge	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5	Services equipment	Airconditioning Factory Processes	Equipment	Offsite Manufacturing / Prefabrication Process	20	hrs	67
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5	Services equipment	Install Airconditioning Unit	People	Trade Staff (Small Electrical Equipment)	2	hrs	70.39
2 BED	HVAC Air Source Heat Pump Embodied (multi-split)	5.2.1	Services equipment	Inspect and Maintain heat pump	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	61.16
2 BED	HWS - Electric Instantaneous	5	Services equipment	Plumber for HWS installation	People	Trade Staff (Small Electrical Equipment)	4	hrs	274.13
2 BED	HWS - Electric Instantaneous	5	Services equipment	Hot Water Unit Assembly	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install Cooker	People	Trade Staff (Small Electrical Equipment)	0.2	hrs	15.58
2 BED	Cooking Res, stove and oven Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the cooker	Equipment	Offsite Manufacturing / Prefabrication Process	20	hrs	100.5
2 BED	Lighting Residential CFL Med Natural Light	4	Fittings, furnishings and equipment	Electrician Fit Lights	People	Trade Staff (Small Electrical Equipment)	0.0625	hrs	8.7
2 BED	Lighting Residential CFL Med Natural Light	4	Fittings, furnishings and equipment	Change Light Bulbs	People	Trade Staff (No Equipment, labour transport only)	0.0111111	hrs	6.05
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	57.44
2 BED	Clothes washer Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	33.5
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	25.85
2 BED	Dishwasher Em	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	15.08
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4	Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	28.72
2 BED	[ARCHIVED] Clothes washer Em (Ext warranty)	4	Fittings, furnishings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	16.75
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4	Fittings, furnishings and equipment	Install dishwasher	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	34.46
2 BED	[ARCHIVED] Dishwasher Em (Ext Warranty)	4	Fittings, furnishings and equipment	Making the dishwasher	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	20.1
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4	Fittings, furnishings and equipment	Install washing machine	People	Trade Staff (Small Electrical Equipment)	0.75	hrs	28.72
2 BED	[ARCHIVED] Clothes Dryer Em (Ext warranty)	4	Fittings, furnishings and equipment	Making the Washer	Equipment	Offsite Manufacturing / Prefabrication Process	5	hrs	16.75
2 BED	Shower unit	5.1	Services equipment Sanitary installations	Plumber to fit shower tap combination set	People	Trade Staff (Small Electrical Equipment)	1	hrs	18.53
2 BED	Shower unit	5.1	Services equipment Sanitary installations	Fit shower enclosure	People	Trade Staff (Small Electrical Equipment)	3	hrs	51.86
2 BED	Wall Basin/sink (ceramic)	5.1	Services equipment Sanitary installations	Plumber fit tap set	People	Trade Staff (Small Electrical Equipment)	0.5	hrs	30.58
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	9.675	hrs	329.97
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	9.675	hrs	659.93
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter primer	People	Trade Staff (Small Electrical Equipment)	1.4175	hrs	50.97
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter Top Coat	People	Trade Staff (Small Electrical Equipment)	1.4175	hrs	101.95
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter, prepare wall for primer	People	Trade Staff (Small Electrical Equipment)	0.70875	hrs	27.35
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls	Painter prepare wall for top coat	People	Trade Staff (Small Electrical Equipment)	0.70875	hrs	54.69
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	3.024	hrs	104.53
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	3.024	hrs	209.06
2 BED	Electrical Fittings - sockets, power points, wiring, embodied	5	Services equipment	Electrician	People	Trade Staff (Small Electrical Equipment)	35.833333	hrs	1819.72
2 BED	Fire Services Fire sprinkler	5	Services equipment	Install sprinkler	People	Trade Staff (Small Electrical Equipment)	0.4998	hrs	40.76
2 BED	Fire Services Fire sprinkler	5	Services equipment	Manufactur sprinkler	Equipment	Offsite Manufacturing / Prefabrication Process	1.00002	hrs	6.7
2 BED	Fire Services Fire sprinkler	5	Services equipment	test sprinkler monthly	People	Trade Staff (Small Electrical Equipment)	0.0198	hrs	13.13
2 BED	Fire Services Fire sprinkler	5.2	Services equipment	Inspection annual regulatory sign-off	People	Trade Staff (Small Electrical Equipment)	0.18	hrs	29.16
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	1.4554688	hrs	52.24
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	1.4554688	hrs	104.48
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply 2nd coat	People	Trade Staff (Small Electrical Equipment)	11.64375	hrs	395.6
2 BED	Internal Finish - Paint Assembly Only	3	Internal finishes	Painter, prep and apply final coat	People	Trade Staff (Small Electrical Equipment)	11.64375	hrs	791.2

2 BED	WC	4.1	Fittings, furnishings and equipment	Toilet	Material	Ceramics Porcelain Sanitary Products Toilet	1 # (Default)	7.5
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12 Count	2.49
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12 Count	0.48
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5 Count	0.26
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5 Count	0.16
2 BED	Wall Basin/sink (ceramic)	4.1	Fittings, furnishings and equipment	Ceramic Wall Basin	Material	Ceramics Porcelain Sanitary Products Bathroom	1 # (Default)	0.54
2 BED	Wall Basin/sink (ceramic)	4.1	Fittings, furnishings and equipment	Ceramic Wall Basin	Material	Ceramics Porcelain Sanitary Products Bathroom	1 # (Default)	1.8
2 BED	Wall Basin/sink (ceramic)	4.1	Fittings, furnishings and equipment	Taps (0.5kg each)	Material	Ferrous Metals Steel Stainless Unspecified	1 kg	16.71
2 BED	Wall Basin/sink (ceramic)	4.1	Fittings, furnishings and equipment	Taps (0.5kg each)	Material	Ferrous Metals Steel Stainless Unspecified	1 kg	0.07
2 BED	Wall Basin/sink (ceramic)	4.1	Fittings, furnishings and equipment	Taps (0.5kg each)	Material	Ferrous Metals Steel Stainless Unspecified	1 kg	0.03
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12 Count	2.49
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Copper pipes	Material	Metals (Non-Ferous) Copper Unspecified	12 Count	0.48
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5 Count	0.26
2 BED	Bathroom services pipework	5.1	Services equipment Sanitary installations	Drain pipes	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	5 Count	0.16
2 BED	Bulk Insulation - 90mm Fibreglass (R2.0)	2.5.1	Superstructure External walls External enclosing walls above ground level Insulation	R2.0 fibreglass batts 90mm	Material	Insulation Blankets and Batts Glass Fibre Batts	86 Area Calculated	4.01
2 BED	Bulk Insulation - 90mm Fibreglass (R2.0)	2.5.1	Superstructure External walls External enclosing walls above ground level Insulation	R2.0 fibreglass batts 90mm	Material	Insulation Blankets and Batts Glass Fibre Batts	86 Area Calculated	13.93
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	12mm back-blocking plasterboard	Material	Plaster and Mineral Derived Products 100% Primary	15.48 m2 (Default)	7.61
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	12mm back-blocking plasterboard	Material	Plaster and Mineral Derived Products 100% Primary	15.48 m2 (Default)	26.47
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	12mm plasterboard	Material	Plaster and Mineral Derived Products 100% Primary	86 m2 (Default)	42.3
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	12mm plasterboard	Material	Plaster and Mineral Derived Products 100% Primary	86 m2 (Default)	147.06
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	Screws	Material	Ferrous Metals Steel General Unspecified	0.43 kg	0.03
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	Screws	Material	Ferrous Metals Steel General Unspecified	0.43 kg	0.01
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	Timber ceiling battens	Material	Timber Softwood Unspecified	191.1092 Count	6.98
2 BED	Ceiling Lining - Plasterboard (12mm)	3.3.1	Internal finishes Ceiling finishes Finishes to ceilings	Timber ceiling battens	Material	Timber Softwood Unspecified	191.1092 Count	23.18
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	86 m2 (Default)	235.3
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	86 m2 (Default)	0.37
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	86 m2 (Default)	1.29
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.86 kg	1.83
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.86 kg	0.06
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.86 kg	0.03
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	86 m2 (Default)	0.37
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	86 m2 (Default)	1.29
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	86 m2 (Default)	117.65
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	86 m2 (Default)	0.37
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	86 m2 (Default)	1.29
2 BED	CLT Timber Floor cubic meters (m3)(Superstructure)	2.2.1	Superstructure Upper floors Floors	CLT floor	Material	Timber Cross Laminated Timber Unspecified	10.8 Linear length	163.12
2 BED	CLT Timber Floor cubic meters (m3)(Superstructure)	2.2.1	Superstructure Upper floors Floors	CLT floor	Material	Timber Cross Laminated Timber Unspecified	10.8 Linear length	541.28
2 BED	Door - SolidCoreTimber/SteelJam/Painted (#)	2.6.2	Superstructure Windows and external doors External doors	Solidcore Door	Material	Timber General Unspecified	75 kg	3.39
2 BED	Door - SolidCoreTimber/SteelJam/Painted (#)	2.6.2	Superstructure Windows and external doors External doors	Solidcore Door	Material	Timber General Unspecified	75 kg	11.25
2 BED	Door - SolidCoreTimber/SteelJam/Painted (#)	2.6.2	Superstructure Windows and external doors External doors	Door Jam	Material	Ferrous Metals Steel General Unspecified	5 Count	4.76
2 BED	Door - SolidCoreTimber/SteelJam/Painted (#)	2.6.2	Superstructure Windows and external doors External doors	Door Jam	Material	Ferrous Metals Steel General Unspecified	5 Count	2.13
2 BED	Door - SolidCoreTimber/SteelJam/Painted (#)	4.1	Fittings, furnishings and equipment	Door Hardware (Handles, Hinges, Locks)	Material	Ferrous Metals Steel Stainless Unspecified	5 kg	0.34
2 BED	Door - SolidCoreTimber/SteelJam/Painted (#)	4.1	Fittings, furnishings and equipment	Door Hardware (Handles, Hinges, Locks)	Material	Ferrous Metals Steel Stainless Unspecified	5 kg	0.15
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	18.9 m2 (Default)	51.71
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	18.9 m2 (Default)	0.08
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	18.9 m2 (Default)	0.28
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Primer	Material	Paints and Finishes Unspecified 1 Coat	18.9 m2 (Default)	0.08
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Primer	Material	Paints and Finishes Unspecified 1 Coat	18.9 m2 (Default)	0.28
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	18.9 m2 (Default)	25.86
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	18.9 m2 (Default)	0.08
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	18.9 m2 (Default)	0.28
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Consumables (Paint tins, rollers, etc)	Material	Ferrous Metals Steel General Unspecified	0.189 kg	0.4
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Consumables (Paint tins, rollers, etc)	Material	Ferrous Metals Steel General Unspecified	0.189 kg	0.01
2 BED	External Finish - Paint (SuperStructure)	2.5	Superstructure External walls External Paint, Textures and Renders	Consumables (Paint tins, rollers, etc)	Material	Ferrous Metals Steel General Unspecified	0.189 kg	0.01
2 BED	Double Door, Hollow Core, Steel Jam	2.6.2	Superstructure Windows and external doors External doors	Door	Material	Timber General Unspecified	80 kg	3.62
2 BED	Double Door, Hollow Core, Steel Jam	2.6.2	Superstructure Windows and external doors External doors	Door	Material	Timber General Unspecified	80 kg	12
2 BED	Double Door, Hollow Core, Steel Jam	4.1	Fittings, furnishings and equipment	Door Hardware (Handles, Hinges, Locks)	Material	Ferrous Metals Steel Stainless Unspecified	4 kg	0.27
2 BED	Double Door, Hollow Core, Steel Jam	4.1	Fittings, furnishings and equipment	Door Hardware (Handles, Hinges, Locks)	Material	Ferrous Metals Steel Stainless Unspecified	4 kg	0.12
2 BED	Double Door, Hollow Core, Steel Jam	2.6.2	Superstructure Windows and external doors External doors	Steel Door Jam	Material	Ferrous Metals Steel General Unspecified	4 Count	3.66
2 BED	Double Door, Hollow Core, Steel Jam	2.6.2	Superstructure Windows and external doors External doors	Steel Door Jam	Material	Ferrous Metals Steel General Unspecified	4 Count	1.63
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	26.88 m2 (Default)	73.55
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	26.88 m2 (Default)	0.12
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	26.88 m2 (Default)	0.4
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.2688 kg	0.57
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.2688 kg	0.02
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.2688 kg	0.01
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	26.88 m2 (Default)	0.12
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	26.88 m2 (Default)	0.4
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	26.88 m2 (Default)	36.77
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	26.88 m2 (Default)	0.12
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	26.88 m2 (Default)	0.4
2 BED	Electrical Fittings - sockets, power points, wiring, embodied	5.8	Services equipment Electrical installations	Copper electrical wire	Material	Metals (Non-Ferous) Copper Unspecified	67.1875 kg	27.07
2 BED	Electrical Fittings - sockets, power points, wiring, embodied	5.8	Services equipment Electrical installations	Copper electrical wire	Material	Metals (Non-Ferous) Copper Unspecified	67.1875 kg	5.24
2 BED	Electrical Fittings - sockets, power points, wiring, embodied	5.8	Services equipment Electrical installations	Plastic associated with electrical wire and fittings	Material	Plastics General Unspecified	53.75 kg	2.32
2 BED	Electrical Fittings - sockets, power points, wiring, embodied	5.8	Services equipment Electrical installations	Plastic associated with electrical wire and fittings	Material	Plastics General Unspecified	53.75 kg	8.06

2 BED	Electrical Fittings - sockets, power points, wiring, embodied	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Ferrous Metals Steel General Unspecified	4.4791667	kg	0.3
2 BED	Electrical Fittings - sockets, power points, wiring, embodied	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Ferrous Metals Steel General Unspecified	4.4791667	kg	0.13
2 BED	Electrical Fittings - sockets, power points, wiring, embodied	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Plastics General Unspecified	2.2395833	kg	19.73
2 BED	Electrical Fittings - sockets, power points, wiring, embodied	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Plastics General Unspecified	2.2395833	kg	0.1
2 BED	Electrical Fittings - sockets, power points, wiring, embodied	4.1.1	Fittings, furnishings and equipment General fittings, furnishings and equipment	Light Fittings	Material	Plastics General Unspecified	2.2395833	kg	0.34
2 BED	External Glass Sliding Door - commercial+hardware	2.6.2	Superstructure Windows and external doors External doors	Steel sliders and hardware	Material	Ferrous Metals Steel Stainless Unspecified	66.122449	kg	4.44
2 BED	External Glass Sliding Door - commercial+hardware	2.6.2	Superstructure Windows and external doors External doors	Steel sliders and hardware	Material	Ferrous Metals Steel Stainless Unspecified	66.122449	kg	1.98
2 BED	External Glass Sliding Door - commercial+hardware	4.1	Fittings, furnishings and equipment	Door Hardware (Handles, Hinges, Locks)	Material	Ferrous Metals Steel Stainless Unspecified	2.2040816	kg	0.15
2 BED	External Glass Sliding Door - commercial+hardware	4.1	Fittings, furnishings and equipment	Door Hardware (Handles, Hinges, Locks)	Material	Ferrous Metals Steel Stainless Unspecified	2.2040816	kg	0.07
2 BED	Windows single glazed aluminium frame individual compo	2.6.1	Superstructure Windows and external doors External windows	aluminium frame	Material	Metals (Non-Ferous) Aluminium Unspecified	34.56	kg	17.63
2 BED	Windows single glazed aluminium frame individual compo	2.6.1	Superstructure Windows and external doors External windows	aluminium frame	Material	Metals (Non-Ferous) Aluminium Unspecified	34.56	kg	2.21
2 BED	Windows single glazed aluminium frame individual compo	2.6.1	Superstructure Windows and external doors External windows	thermal break	Material	Rubber Synthetic	3.456	kg	0.15
2 BED	Windows single glazed aluminium frame individual compo	2.6.1	Superstructure Windows and external doors External windows	thermal break	Material	Rubber Synthetic	3.456	kg	0.52
2 BED	Windows single glazed aluminium frame individual compo	2.6.1	Superstructure Windows and external doors External windows	window pane	Material	Glass Flat Glass	278.1	kg	13.71
2 BED	Windows single glazed aluminium frame individual compo	2.6.1	Superstructure Windows and external doors External windows	window pane	Material	Glass Flat Glass	278.1	kg	41.72
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	2.09
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	0.01
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Glass bulb	Material	Glass Flat Glass	0.12	kg	0.02
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	16.34
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	0.19
2 BED	Fire Services Fire sprinkler	5.11	Services equipment Fire and lightning protection	Deflector, cap etc	Material	Metals (Non-Ferous) Brass	0.48	kg	0.04
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Floor tiles	Material	Ceramics Tiles Ceramic Tiles	10	Count	4.31
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Floor tiles	Material	Ceramics Tiles Ceramic Tiles	10	Count	15
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Tile grout	Material	Cements and Limes Portland Cement Unspecifi	3.1	kg	0.13
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Tile grout	Material	Cements and Limes Portland Cement Unspecifi	3.1	kg	0.46
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Sealant	Material	Resins and Adhesives Urea Formaldehyde	4	kg	169.16
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Sealant	Material	Resins and Adhesives Urea Formaldehyde	4	kg	0.2
2 BED	Floor Covering - Tiles (ceramic/5mm)	3.2.1	Internal finishes Floor finishes Finishes to floors Wet Area Floors	Sealant	Material	Resins and Adhesives Urea Formaldehyde	4	kg	0.6
2 BED	Footing, Strip 400 x 300 Concrete 40Mpa 3% reo by volu	1.1.1	Substructure Substructure Standard foundations	Impermeable Lining	Material	Plastics High Density Polyethylene (HDPE) Unsp	33	Count	5.41
2 BED	Footing, Strip 400 x 300 Concrete 40Mpa 3% reo by volu	1.1.1	Substructure Substructure Standard foundations	Impermeable Lining	Material	Plastics High Density Polyethylene (HDPE) Unsp	33	Count	3.28
2 BED	Poured Concrete - Foundations, 40MPa	1.1.1	Substructure Substructure Standard foundations	Pour Concrete Foundations	Material	Concrete Unreinforced Portland Cement Blends	3.96	m3	407.35
2 BED	Poured Concrete - Foundations, 40MPa	1.1.1	Substructure Substructure Standard foundations	Pour Concrete Foundations	Material	Concrete Unreinforced Portland Cement Blends	3.96	m3	1416.1
2 BED	Reinforcement Bar Foundations kg	1.1.1	Substructure Substructure Standard foundations	Reinforcement Bar Foundations	Material	Ferrous Metals Steel General Unspecified	940.896	kg	55.1
2 BED	Wall Finish - Plaster Cornices (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Cornices 25mm x 200mm	Material	Plaster and Mineral Derived Products 100% Prim	8.625	Area Calcu	10.42
2 BED	Wall Finish - Plaster Cornices (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Cornices 25mm x 200mm	Material	Plaster and Mineral Derived Products 100% Prim	8.625	Area Calcu	36.22
2 BED	Wall Finish - MDF Skirtings (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Skirting Boards MDF 25mm x 150mm	Material	Timber Medium Density Fibreboard (MDF) Unsp	43.125	Linear leng	5.48
2 BED	Wall Finish - MDF Skirtings (m)	3.1.1	Internal finishes Wall finishes Wall finishes Cornices & Shadowlines	Skirting Boards MDF 25mm x 150mm	Material	Timber Medium Density Fibreboard (MDF) Unsp	43.125	Linear leng	18.19
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	35.4
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	0.06
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	0.19
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.129375	kg	0.28
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.129375	kg	0.01
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	0.129375	kg	0
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	0.06
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	0.19
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	17.7
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	0.06
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	12.9375	m2 (Defau	0.19
2 BED	Bulk Insulation - 75mm Fibreglass (R1.5)	2.5.1	Superstructure External walls External enclosing walls above ground level Insulatio	R1.5 fibreglass batts 75mm	Material	Insulation Blankets and Batts Glass Fibre Batts	51.75	Area Calcu	2.01
2 BED	Bulk Insulation - 75mm Fibreglass (R1.5)	2.5.1	Superstructure External walls External enclosing walls above ground level Insulatio	R1.5 fibreglass batts 75mm	Material	Insulation Blankets and Batts Glass Fibre Batts	51.75	Area Calcu	6.99
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	100x50mm Studs 600mm centres	Material	Timber Softwood Unspecified	35.938219	Count	10.72
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	100x50mm Studs 600mm centres	Material	Timber Softwood Unspecified	35.938219	Count	35.58
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Bottom plate (100x50mm)	Material	Timber Softwood Unspecified	21.5625	Count	2.68
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Bottom plate (100x50mm)	Material	Timber Softwood Unspecified	21.5625	Count	8.89
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Fasteners/nails	Material	Ferrous Metals Steel General Unspecified	0.5390625	kg	0.04
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Fasteners/nails	Material	Ferrous Metals Steel General Unspecified	0.5390625	kg	0.02
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Diagonal bracing straps	Material	Ferrous Metals Steel General Unspecified	1.29375	kg	0.08
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Waterproof membrane	Material	Plastics High Density Polyethylene (HDPE) Unsp	21.5625	Count	0.74
2 BED	Internal Wall - Framing, 100mm Timber Stud (600mm cen	2.7	Superstructure Internal walls and partitions	Waterproof membrane	Material	Plastics High Density Polyethylene (HDPE) Unsp	21.5625	Count	0.45
2 BED	Wall Lining - 12mm Plasterboard, paint	3.1.1	Internal finishes Wall finishes Wall finishes	Fasteners and/or nails	Material	Ferrous Metals Steel General Unspecified	2.5875	kg	0.17
2 BED	Wall Lining - 12mm Plasterboard, paint	3.1.1	Internal finishes Wall finishes Wall finishes	Fasteners and/or nails	Material	Ferrous Metals Steel General Unspecified	2.5875	kg	0.08
2 BED	Wall Lining - Plasterboard (12mm)	3.1.1	Internal finishes Wall finishes Wall finishes	Fasteners and Nails	Material	Ferrous Metals Steel General Unspecified	0.5175	kg	0.03
2 BED	Wall Lining - Plasterboard (12mm)	3.1.1	Internal finishes Wall finishes Wall finishes	Fasteners and Nails	Material	Ferrous Metals Steel General Unspecified	0.5175	kg	0.02
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	283.18
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	0.45
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Top Coat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	1.55
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	1.035	kg	2.2
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	1.035	kg	0.07
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Consumables (paint tins, rollers etc)	Material	Ferrous Metals Steel General Unspecified	1.035	kg	0.03
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	0.45
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Primer	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	1.55
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	141.59
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	0.45
2 BED	Internal Finish - Paint (standard)	3.1.1	Internal finishes Wall finishes Wall finishes Paint - Walls	Undercoat	Material	Paints and Finishes Unspecified 1 Coat	103.5	m2 (Defau	1.55
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	hinges, runners, handles and other hardware	Material	Ferrous Metals Steel General Unspecified	10	kg	8.52

2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	hinges, runners, handles and other hardware	Material	Ferrous Metals Steel General Unspecified	10	kg	0.67
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	hinges, runners, handles and other hardware	Material	Ferrous Metals Steel General Unspecified	10	kg	0.3
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	PVC feet	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection Molding	3	kg	2.48
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	PVC feet	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection Molding	3	kg	0.59
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	PVC feet	Material	Plastics Polyvinyl Chloride (PVC) PVC Injection Molding	3	kg	0.36
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cabinets	Material	Timber Particle Board Indoor	46	Area Calculated	29.63
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cabinets	Material	Timber Particle Board Indoor	46	Area Calculated	98.32
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard	Material	Timber Medium Density Fibreboard (MDF) Unspecified	1	Count	9.41
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard	Material	Timber Medium Density Fibreboard (MDF) Unspecified	1	Count	0.37
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard	Material	Timber Medium Density Fibreboard (MDF) Unspecified	1	Count	1.21
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard covering	Material	Metals (Non-Ferrous) Aluminium Unspecified	1	Count	2.4
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard covering	Material	Metals (Non-Ferrous) Aluminium Unspecified	1	Count	0.37
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	kickboard covering	Material	Metals (Non-Ferrous) Aluminium Unspecified	1	Count	0.05
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cabinet Coverings	Material	Resins and Adhesives Melamine Resin	46	Area Calculated	96.78
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cabinet Coverings	Material	Resins and Adhesives Melamine Resin	46	Area Calculated	0.34
2 BED	Kitchen cabinetry (stone benchtop), medium	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Cabinet Coverings	Material	Resins and Adhesives Melamine Resin	46	Area Calculated	1.03
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Stone Benchtop	Material	Rock and Stone Polished Granite / Basalt / Marble	3.4	Area Calculated	114.74
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Stone Benchtop	Material	Rock and Stone Polished Granite / Basalt / Marble	3.4	Area Calculated	13.97
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Stone Benchtop	Material	Rock and Stone Polished Granite / Basalt / Marble	3.4	Area Calculated	49.98
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Glass Content of Benchtop	Material	Glass Flat Glass	0.2	Area Calculated	75.84
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Glass Content of Benchtop	Material	Glass Flat Glass	0.2	Area Calculated	0.86
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Glass Content of Benchtop	Material	Glass Flat Glass	0.2	Area Calculated	2.62
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Benchtop Bonding Agent	Material	Resins and Adhesives Epoxy Resin	0.4	Area Calculated	294.56
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Benchtop Bonding Agent	Material	Resins and Adhesives Epoxy Resin	0.4	Area Calculated	1.04
2 BED	Engineered Stone Benchtop	4.1.2	Fittings, furnishings and equipment Domestic kitchen fittings and equipment	Benchtop Bonding Agent	Material	Resins and Adhesives Epoxy Resin	0.4	Area Calculated	3.15
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3.1	Superstructure Roof Roof structure	Top chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	1.3544256	m3	45.92
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.3.1	Superstructure Roof Roof structure	Top chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	1.3544256	m3	152.37
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Bottom chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	1.3544256	m3	45.92
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Bottom chord of trussx2 0.24x0.025x10	Material	Timber Hardwood Unspecified	1.3544256	m3	152.37
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Stiffener Platesx8 (0.24x0.25x1.35)	Material	Timber Hardwood Unspecified	0.3656949	m3	12.4
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Stiffener Platesx8 (0.24x0.25x1.35)	Material	Timber Hardwood Unspecified	0.3656949	m3	41.14
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Uprightsx18 (0.24x0.025x0.5)	Material	Timber Hardwood Unspecified	0.3047458	m3	10.33
2 BED	Structure - Timber Truss 10m (0.24x0.025x10)	2.1.1	Superstructure Frame Frame	Truss Uprightsx18 (0.24x0.025x0.5)	Material	Timber Hardwood Unspecified	0.3047458	m3	34.28
2 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	1m of 3mm thick semi circular gutter (112mm)	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	32.912	Count	4.75
2 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	1m of 3mm thick semi circular gutter (112mm)	Material	Plastics Polyvinyl Chloride (PVC) PVC Pipe	32.912	Count	2.88
2 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	Screws, bolts & fixings	Material	Ferrous Metals Steel Galvanised Structural Unspecified	0.98736	kg	0.07
2 BED	Gutter - PVC	2.3.4	Superstructure Roof Roof drainage	Screws, bolts & fixings	Material	Ferrous Metals Steel Galvanised Structural Unspecified	0.98736	kg	0.03
2 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	0.48mm corrugated/CustomOrb sheet	Material	Ferrous Metals Steel Coated Sheet Zinc Coated	479.1329	kg	32.2
2 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	0.48mm corrugated/CustomOrb sheet	Material	Ferrous Metals Steel Coated Sheet Zinc Coated	479.1329	kg	14.37
2 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	Fastenings	Material	Ferrous Metals Steel Stainless Unspecified	0.971872	kg	0.07
2 BED	Covering - Steel Sheetting 0.42mm corrugated	2.3.2	Superstructure Roof Roof coverings	Fastenings	Material	Ferrous Metals Steel Stainless Unspecified	0.971872	kg	0.03
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	R1.3 glasswool blanket	Material	Insulation Blankets and Batts Glass Fibre Batts	97.1872	Count	3.02
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	R1.3 glasswool blanket	Material	Insulation Blankets and Batts Glass Fibre Batts	97.1872	Count	10.5
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil lining	Material	Metals (Non-Ferrous) Aluminium Unspecified	97.1872	Count	66.93
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil lining	Material	Metals (Non-Ferrous) Aluminium Unspecified	97.1872	Count	8.4
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil glue	Material	Resins and Adhesives Melamine Resin	97.1872	Count	1.44
2 BED	Insulation - Roofing Blanket (foil-lined)	2.3	Superstructure Roof Insulation	Foil glue	Material	Resins and Adhesives Melamine Resin	97.1872	Count	4.37
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Web	Material	Timber Plywood Unspecified	194.36	Count	14.42
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Web	Material	Timber Plywood Unspecified	194.36	Count	47.85
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Glue	Material	Resins and Adhesives Urea Formaldehyde	86	Count	0.21
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Glue	Material	Resins and Adhesives Urea Formaldehyde	86	Count	0.64
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Bearers / End Caps	Material	Timber Glue Laminated Unspecified	1.72	m3	58.31
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Bearers / End Caps	Material	Timber Glue Laminated Unspecified	1.72	m3	193.5
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Hangers, Bolts, brackets and nails	Material	Ferrous Metals Steel General Unspecified	2.58	kg	0.17
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Hangers, Bolts, brackets and nails	Material	Ferrous Metals Steel General Unspecified	2.58	kg	0.08
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Flanges	Material	Timber Softwood Unspecified	388.72	Count	59.15
2 BED	Timber Framed Floor - Elevated Lowest Floor (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Engineered I Beam Flanges	Material	Timber Softwood Unspecified	388.72	Count	196.26
2 BED	Floor Covering - 19mm particle/chipboard flooring (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Glue	Material	Plastics Polyurethane Unspecified	25.8	kg	1.11
2 BED	Floor Covering - 19mm particle/chipboard flooring (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Glue	Material	Plastics Polyurethane Unspecified	25.8	kg	3.87
2 BED	Floor Covering - 19mm particle/chipboard flooring (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	Hangers, Bolts, brackets and nails	Material	Ferrous Metals Steel General Unspecified	0.86	kg	0.05
2 BED	Floor Covering - 19mm particle/chipboard flooring (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	19mm Particleboard	Material	Timber Medium Density Fibreboard (MDF) Unspecified	86	Count	55.4
2 BED	Floor Covering - 19mm particle/chipboard flooring (Substructure)	1.1.3	Substructure Substructure Lowest floor construction	19mm Particleboard	Material	Timber Medium Density Fibreboard (MDF) Unspecified	86	Count	183.82
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	Waterproof membrane	Material	Plastics High Density Polyethylene (HDPE) Unspecified	128.7	Count	4.39
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	Waterproof membrane	Material	Plastics High Density Polyethylene (HDPE) Unspecified	128.7	Count	2.66
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	CLT Structure	Material	Timber Cross Laminated Timber Unspecified	2.053	m3	69.6
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	CLT Structure	Material	Timber Cross Laminated Timber Unspecified	2.053	m3	230.96
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	Fasteners / nails	Material	Ferrous Metals Steel General Unspecified	12.87	kg	0.86
2 BED	Wall, 150mm CLT, Unfinished, m2	2.5.1	Superstructure External walls External enclosing walls above ground level	Fasteners / nails	Material	Ferrous Metals Steel General Unspecified	12.87	kg	0.39
2 BED	Windows, Residential Aluminium Double Glaze, fly screen	2.6.1	Superstructure Windows and external doors External windows	Windows / Sliding Doors	Material	Windows Aluminium Framed No Thermal Break	4	m2 (Default)	5.28
2 BED	Windows, Residential Aluminium Double Glaze, fly screen	2.6.1	Superstructure Windows and external doors External windows	Windows / Sliding Doors	Material	Windows Aluminium Framed No Thermal Break	4	m2 (Default)	17.52
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Screen	Fly screen frame	Material	Metals (Non-Ferrous) Aluminium Unspecified	2	kg	13.15
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Screen	Fly screen frame	Material	Metals (Non-Ferrous) Aluminium Unspecified	2	kg	1.02
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Screen	Fly screen frame	Material	Metals (Non-Ferrous) Aluminium Unspecified	2	kg	0.13
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Screen	Flyscreen Mesh	Material	Plastics General Unspecified	2	Count	8
2 BED	Fly Screen	2.6.1	Superstructure Windows and external doors External windows Security and Fly Screen	Flyscreen rubber spline	Material	Rubber Synthetic	1	kg	1.87

2 BED	FINAL DESIGN	3	Refrigeration	Primary Refrigerator / Freezer Unit	Operational	AU WA SWIS Residential	6165	MJ/year	69.51
2 BED	FINAL DESIGN	3	Refrigeration	Allowance for secondary refrigeration units	Operational	AU WA SWIS Residential	2240	MJ/year	25.26
2 BED	FINAL DESIGN	2	Domestic Water Heating	Water heating energy demand	Operational	AU WA SWIS Residential	23321.55	MJ/year	368.25
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Cook top demand	Operational	AU WA SWIS Residential	4822	MJ/year	60.27
2 BED	FINAL DESIGN	5	Cooking and Food Preparation	Oven demand	Operational	AU WA SWIS Residential	1607.3333	MJ/year	20.09
2 BED	FINAL DESIGN	7	Appliances Entertainment	Computers, other entertainment and standby	Operational	AU WA SWIS Residential	4045	MJ/year	56.81
2 BED	FINAL DESIGN	7	Appliances Entertainment	Televisions (87% more efficient than MEPS 2.2)	Operational	AU WA SWIS Residential	4314.67	MJ/year	60.52
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes washing machine (79% more efficient)	Operational	AU WA SWIS Residential	1919.3667	MJ/year	26.92
2 BED	FINAL DESIGN	6	Appliances Laundry Appliances	Clothes Dryers (56% more efficient than MEPS)	Operational	AU WA SWIS Residential	1085.3867	MJ/year	15.24
2 BED	FINAL DESIGN	11	Miscellaneous	Dishwashing machines (35% more efficient than MEPS)	Operational	AU WA SWIS Residential	1659	MJ/year	40.2
2 BED	FINAL DESIGN	15	Water Supply	Miscellaneous	Operational	Water Supply: General	50		3.75
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Miscellaneous	Operational	Water Treatment: General	50		3.75
2 BED	FINAL DESIGN	15	Water Supply	Toilets	Operational	Water Supply: General	120		9
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Toilet	Operational	Water Treatment: General	120		9
2 BED	FINAL DESIGN	15	Water Supply	Residential Shower	Operational	Water Supply: General	180.36		29.59
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Shower	Operational	Water Treatment: General	180.36		29.59
2 BED	FINAL DESIGN	15	Water Supply	Residential Kitchen and Dishwasher	Operational	Water Supply: General	22.545		3.7
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Kitchen and Dishwasher	Operational	Water Treatment: General	22.545		3.7
2 BED	FINAL DESIGN	15	Water Supply	Residential Laundry	Operational	Water Supply: General	50.045		5.76
2 BED	FINAL DESIGN	16	Water Removal and Treatment	Residential Laundry	Operational	Water Treatment: General	50.045		5.76

Reference	Description	Results
	<p style="text-align: center;">GLULAM Beams Supporting Mezzanine Floor</p> 	
	Using GL10 80x336 White Cypress beam	
	L	4000 mm
	L	4 m
	Wall thickness b_L	145 mm
	b	85 mm
	d	336 mm
Forest Products commission	Mass Density	580 kg/m ³
		5.69 kN/m ³
	<i>Loads</i>	
	Imposed Load Q	3.63 kN/m
	Self Weight G_{sw}	2.36 kN/m
	Super Imposed Dead Load G_{SIDL}	3.3 kN/m
AS1720.1: Table 7.1	E_{mean}	10000 MPa
AS1720.1: Appendix B	$E_{0.05} = 0.75 \cdot E_{mean}$	7500 MPa
	<u>Serviceability check</u>	
AS1170.0: Table C1	Appearance: Short term Imposed Load, $G + \psi_1 Q$	7.11 kN/m
AS1170.0: Table 4.1	where, ψ_1	0.4
	$I = bd^3/12$	2.69E+08 mm ⁴
	therefore deflection, δ	$\delta = \frac{5}{384} \times \frac{j_2 w L^4}{E_{mean} I}$
	δ ($j_2 = 1$ for shorter term loads)	8.83 mm
	$\delta_{allowable} = L/300$	13.33 mm
		OK

Strength Check

AS1170.0: Clause 4.2.2

Load Combinations

1	1.35 G	7.64 kN/m
2	1.2 G + 1.5 ψ_1 Q	8.97 kN/m
3	1.2 G + 1.5 Q	12.24 kN/m

Moment Capacity Check

Design Actions

$$M^* = \frac{wL^2}{8}$$

1	M_1^*	15.29 kN/m
2	M_2^*	17.95 kN/m
3	M_3^*	24.48 kN/m

AS1720.1: Clause 3.2.1.1

$$M_d \geq M^*$$

$$M_d = \varphi k_1 k_4 k_6 k_9 k_{12} f_b Z$$

where,

AS1720.1: Table 2.1

Design Capacity factor; φ

0.95

(Primary Glue Laminated member of residential building supporting an area larger than 25 m²)

AS1720.1: Table 2.3

Duration of Load actor for Strength; k_1

1	Permanent action: 50+ years	0.57
2	Crowd Loads : 5 days	0.57
3	Permanent and Long term imposed action : 50+ years	0.94

Partial Seasoning Factor; k_4

AS1720.1: Clause 2.4.2.3

Unexposed Seasoned Timber

1

Temperature Modification Factor, k_6

AS1720.1: Clause 2.4.3

Non Tropical area

1

Strength Sharing Factor, k_9

AS1720.1: Clause 7.4.3

Engineered Wood product

1

AS1720.1: Clause 3.2.4

Stability Factor, k_{12}

S_1 , continuous lateral restraint

0

therefore; k_{12}

1

AS1720.1: Table 7.1

Characteristic value, f_b

22 Mpa

Section Modulus, $Z = bd^2/6$

1.60E+06 mm³

1	M_{d1}	1.91E+07 Nmm	19.05 kNm
2	M_{d2}	1.91E+07 Nmm	19.05 kNm
3	M_{d3}	3.14E+07 Nmm	31.42 kNm

Therefore, Momrnt Capacity

OK

Shear Capacity check

Design Action

$$V^* = \frac{wL_e}{2}$$

where,

$$L_e = (L - (2 \cdot 1.5d))$$

2847 mm
2.847 m

1	V^*_1	10.88 kN
2	V^*_2	12.77 kN
3	V^*_3	17.42 kN

AS1720.1: Clause 3.2.5

$$V_d \geq V^*$$

$$V_d = \phi k_1 k_4 k_6 f'_s A_p$$

ϕ and all modification factors are similar to Moment Capacity calculation

AS1720.1: Table 7.1

Shear Strength, f_s

4.2 Mpa

Shear Plane Area, A_p

19040 mm²

1	V_{d1}	4.33E+04 N	43.30 kN
2	V_{d2}	4.33E+04 N	43.30 kN
3	V_{d3}	7.14E+04 N	71.41 kN

Shear Capacity

OK

Bearing Capacity Check

Design Action

$$N^* = \frac{wL}{2}$$

1	N^*_1	15.29 kN
2	N^*_2	17.95 kN
3	N^*_3	24.48 kN

$$N_{d,p} \geq N^*$$

$$N_{d,p} = \phi k_1 k_4 k_6 k_7 A_p f_p$$

ϕ, k_1 to k_6 same as Moment Capacity calculation

AS1720.1: Table H2.2

AS1720.1: Clause 7.3.1

AS1720.1: Table H2.4

Bearing Strength perpendicular to the grain, f_p

10 Mpa

(Assume the Bearing strength of GL10 beam is equal to F grade timber)

(Seasoned White Cypress Pine strength group: SD6)

Bearing Area, A_p

12325 mm²

AS1720.1: Clause 2.4.4

Length of bearing factor, k_7

1

1	$N_{d,p,1}$	6.67E+04 N	66.74 kN
2	$N_{d,p,2}$	6.67E+04 N	66.74 kN
3	$N_{d,p,3}$	1.10E+05 N	110.06 kN

Bearing Capacity

OK

Reference	Description Mezzanine Floor Design	Results
	Using CL5/175	
Xlam Design Guide	b_{eff}	1000 mm
	t_p	175 mm
Xlam Design Guide	L	4400 mm
Xlam Design Guide	$t_{1,3,5}$	45 mm
Xlam Design Guide	$t_{2,4}$	20 mm
	<u>Loads</u>	
Xlam Design Guide	Imposed Load Q	1.65 kPa
	Self Weight G_{sw}	1 kPa
	Super Imposed Dead Load G_{SIDL}	1.5 kPa
	<u>Serviceability checks</u>	
AS1170.0: 4.3	Long term serviceability load $w_s = G + 0.4Q$	3.16 kPa
	<u>Rolling Shear (Gamma Method)</u>	
FPI CLT Handbook:Ch 3	$\gamma_1 = \frac{1}{1 + (\pi^2 \frac{E_1 \cdot A_1}{l^2} \frac{t_2}{G_{y2} \cdot b_y})}$	
XLam Design Guide	$E_{1,5}$	8000 MPa
	E_3	6000 MPa
ICE manual	$E_{2,4}$ ($E_{perp} = 0.04 \cdot E_{parallel}$)	200 MPa
XLam Design Guide	G_R	40 MPa
	$A_{1,3,5}$	45000 mm ²
	$\gamma_{1,5}$	0.92
	γ_3	1.00

$$(EI)_{eff,y} = \sum_{i=1}^n (E_{yi} \cdot I_{yi} + \gamma_i \cdot E_{yi} \cdot A_i \cdot z_i^2)$$

$I_{1,5}$	1.21E+08 mm ⁴
I_3	7.59E+06 mm ⁴
EI_1	9.70E+11 Nmm ²
EI_5	9.70E+11 Nmm ²
EI_3	4.56E+10 Nmm ²
EI_{eff}	1.98E+12 Nmm ²

$$\Delta_{max} = \frac{5}{384} \times \frac{j_2 L^4 w}{EI_{eff}}$$

1720.1: Table 2.4

j_2 (Long term)	2	
Δ_{max}		15.54 mm
$\Delta_{allowable}$	14.67 mm	NOT OK

Dynamic Performance

Deflection under 1kN load (Δ_{1kN})

$$\Delta_{1kN} = \frac{1}{48} \times \frac{PL^3}{EI_{eff}}$$

Δ_{1kN}		0.89 mm
Δ_{max}	2 mm	OK

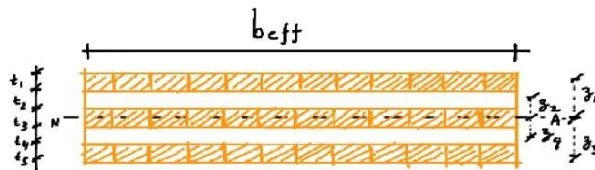
Dynamic Frequency (F_1)

$$F_1 = \frac{\pi}{2l^2} \left(\frac{EI_{eff}}{m} \right)^{1/2}$$

FPI CLT Handbook:Ch 7

m (Self weight)	1 kPa	
	101.94 kg/m ²	
l	4.4 m	
EI_{eff}	1.98E+06 kg/m ²	
F_1		11.32 Hz
F_{1min}	8 Hz	OK

Strength Checks



AS1170.0: Clause 4.2.2

Load Combinations

1	1.35 G (Permanent action)	2.03 kPa
2	1.2G +1.5Q (Crowd loading)	5.48 kPa
3	1.2G +1.5ψQ (Permanent and Long term imposed action)	3.99 kPa

Moment Capacity Check

... wL^2

	<i>Design action</i>	$M^* = \frac{\quad}{8}$	
	M* ₁		4.90 kNm/m
	M* ₂		13.25 kNm/m
	M* ₃		9.66 kNm/m
AS1720.1: Clause 3.2.1.1		$M_d \geq M^*$	
		$M_d = \varphi k_1 k_4 k_6 k_9 k_{12} f_b Z_{eff}$	
	where,		
AS1720.1: Table 2.1	<i>Design Capacity factor; φ</i> (primary member of residential building supporting an area larger than 25 m ²)		0.7
AS1720.1: Table 2.3	<i>Duration of Load action for Strength; k_1</i>		
	1 Permanent action: 50+ years		0.57
	2 Crowd Loads : 5 days		0.94
	3 Permanent and Long term imposed action : 50+ years		0.57
	<i>Partial Seasoning Factor; k_4</i>		
AS1720.1: Clause 2.4.2.3	Unexposed Seasoned Timber		1
	<i>Temperature Modification Factor, k_6</i>		
AS1720.1: Clause 2.4.3	Non Tropical area		1
	<i>Strength Sharing Factor, k_9</i>		
Lecture Slides	Engineered Wood product		1
	<i>Stability Factor, k_{12}</i>		
AS1720.1: Clause 3.2.4	S ₁ , continuous lateral restraint therefore; k_{12}		0 1
XLam Design Guide	Characteristic value, f_d		12 Mpa
	Effective Section Modulus, Z_{eff}		
	$Z_{eff} = \frac{EI_{eff}}{E_1} \times \frac{2}{t_p}$		
	Z_{eff}		2.84E+06 mm ³
	1 M _{d1}	1.36E+07 Nmm	<u>13.58 kNm/l</u>
	2 M _{d2}	2.24E+07 Nmm	<u>22.39 kNm/l</u>
	3 M _{d3}	1.36E+07 Nmm	<u>13.58 kNm/l</u>
	Moment Capacity		OK

Shear Capacity Check

$$V^* = \frac{wL_e}{2}$$

Design Action

where,

$$L_e = (L - (2 \cdot 1.5d))$$

3800 mm

3.8 m

1 V^*_1

3.85 kN/m

2 V^*_2

10.40 kN/m

3 V^*_3

7.58 kN/m

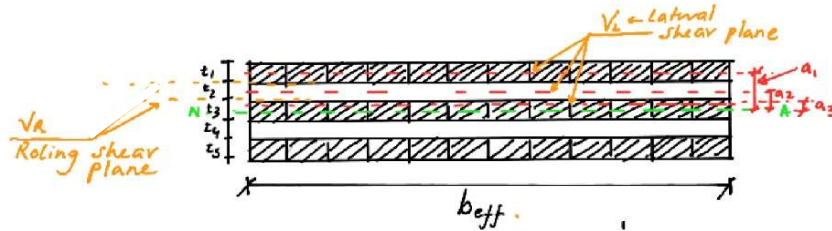
$$V_d \geq V^*$$

where,

AS1720.1: Clause 3.2.5

$$V_d = \frac{\phi k_1 k_4 k_6 f_s E I_{eff} b_{eff}}{(EQ)}$$

shear failure could occur in both longitudinal and rolling shear



XLam Design guide

Average Shear Strength f_s

2.5 MPa

Shear Strength perpendicular to grain $f_{s,90}$

1.2 MPa

$$Q = A a_i$$

a_1

65 mm

a_2

32.5 mm

a_3

11.25 mm

$(EQ)_L$

2.5E+10 Nmm

$(EQ)_R$

1.53E+10 Nmm

Modification factors similar to Moment Capacity calculation

Longitudinal Shear capacity

1 V_{dL1}

7.90E+04 N/m

79.04 kN/m

2 V_{dL2}

2.28E+04 N/m

22.81 kN/m

3 V_{dL3}

1.38E+04 N/m

13.83 kN/m

Rolling Shear Capacity

1 V_{dR1}

6.19E+04 N/m

61.95 kN/m

2 V_{dR2}

1.02E+05 N/m

102.16 kN/m

3 V_{dR3}

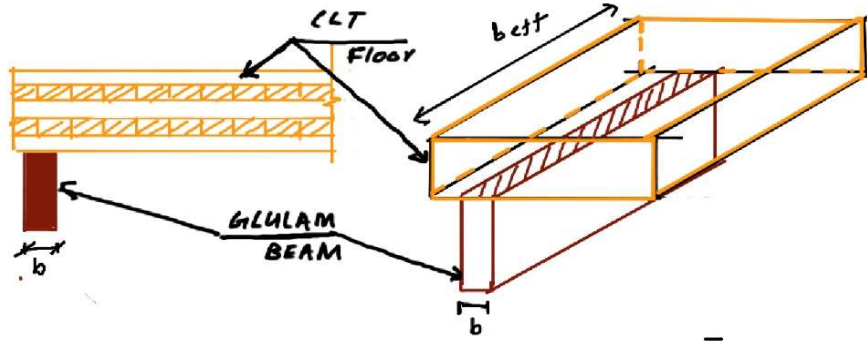
6.19E+04 N/m

61.95 kN/m

Shear capacity

OK

Bearing Capacity



Design Action

$$N^* = \frac{wL}{2}$$

1	N_1^*	4.46 kN/m
2	N_2^*	12.05 kN/m
3	N_3^*	8.78 kN/m

$$N_{d,p} \geq N^*$$

AS1720.1: Clause 3.2.6.1 where,

$$N_{d,p} = \varphi k_1 k_4 k_6 k_7 A_p f_p$$

φ, k_1 to k_6 same as Moment Capacity calculation

XLam Design Guide

Bearing Strength Perpendicular to grain, f_b 8.9 Mpa

Bearing Length, b 75 mm

AS1720.1: Table 2.6

Length of bearing factor, k_7 1.15

Bearing Area, A_p 75000 mm²

1	$N_{d,p,1}$	3.06E+05 N/m	306.28 kN/m
2	$N_{d,p,2}$	5.05E+05 N/m	505.10 kN/m
3	$N_{d,p,3}$	3.06E+05 N/m	306.28 kN/m

Bearing Capacity

OK

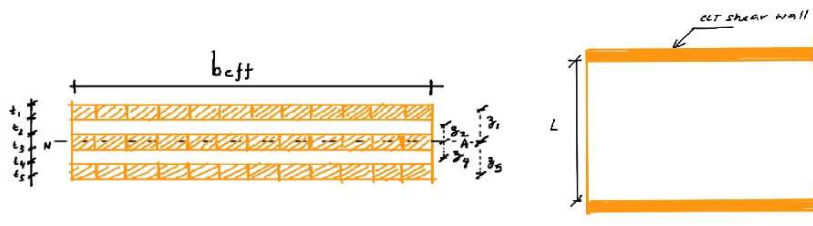
m
m
m

Reference

Description

Results

Typical CLT Floor Design



Using CL5/175

	b_{eff}	1000 mm
Xlam Design Guide	t_p	175 mm
	L	4255 mm
Xlam Design Guide	$t_{1,3,5}$	45 mm
Xlam Design Guide	$t_{2,4}$	20 mm

Loads

	Imposed Load Q	1.7 kPa
Xlam Design Guide	Self Weight G_{sw}	1 kPa
	Super Imposed Dead Load G_{SIDL}	1 kPa

Serviceability checks

AS1170.0: 4.3	Long term serviceability load $w_s = G + 0.4Q$	2.68 kPa
---------------	--	----------

Rolling Shear (Gamma Method)

FPI CLT Handbook:Ch 3

$$\gamma_1 = \frac{1}{1 + \left(\pi^2 \frac{E_1 \cdot A_1}{l^2} \frac{t_2}{G_{y2} \cdot b_y}\right)}$$

XLam Design Guide	$E_{1,5}$	8000 MPa
	E_3	6000 MPa
ICE manual	$E_{2,4}$ ($E_{perp} = 0.04 \cdot E_{parallel}$)	200 MPa
XLam Design Guide	G_R	40 MPa

	$A_{1,3,5}$	45000 mm ²
	$\gamma_{1,5}$	0.91
	γ_3	1.00

FPI CLT Handbook:Ch 3

$$(EI)_{eff,y} = \sum_{i=1}^n (E_{yi} \cdot I_{yi} + \gamma_i \cdot E_{yi} \cdot A_i \cdot z_i^2)$$

	$I_{1,5}$	1.21E+08 mm ⁴
	I_3	7.59E+06 mm ⁴
	EI_1	9.64E+11 Nmm ²
	EI_5	9.64E+11 Nmm ²
	EI_3	4.56E+10 Nmm ²
	EI_{eff}	1.97E+12 Nmm ²

1720.1: Table 2.4

$$\Delta_{max} = \frac{5}{384} \times \frac{j_2 L^4 w}{EI_{eff}}$$

j_2 (Long term)

2

Δ_{max}

11.59 mm

$\Delta_{allowable}$

14.18 mm

OK

Dynamic Performance

Deflection under 1kN load (Δ_{1kN})

$$\Delta_{1kN} = \frac{1}{48} \times \frac{PL^3}{EI_{eff}}$$

Δ_{1kN}

0.81 mm

Δ_{max}

2 mm

OK

Dynamic Frequency (F_1)

$$F_1 = \frac{\pi}{2l^2} \left(\frac{EI_{eff}}{m} \right)^{1/2}$$

FPI CLT Handbook:Ch 7

m (Self weight)

1 kPa

101.94 kg/m²

l

4.255 m

EI_{eff}

1.97E+06 kg/m²

F_1

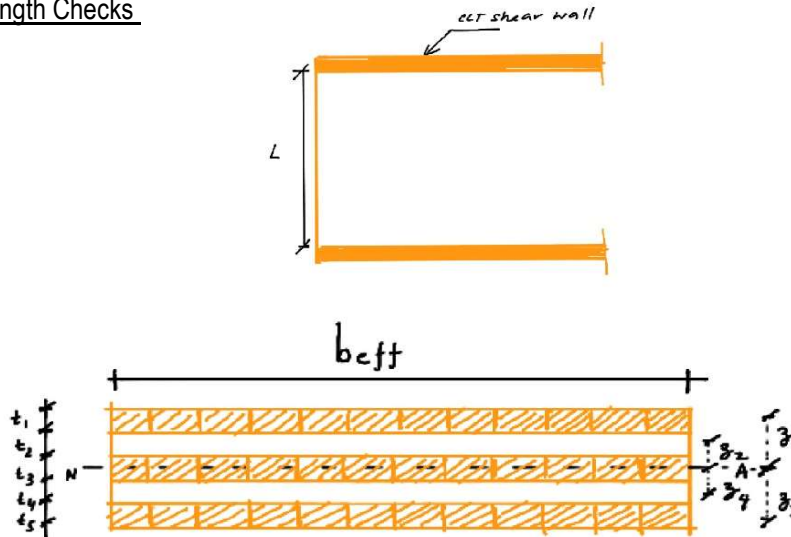
12.07 Hz

F_{1min}

8 Hz

OK

Strength Checks



AS1170.0: Clause 4.2.2

Load Combinations

- | | | |
|---|---|----------|
| 1 | 1.35 G (Permanent action) | 2.7 kPa |
| 2 | 1.2G + 1.5Q (Crowd loading) | 4.95 kPa |
| 3 | 1.2G + 1.5ψQ (Permanent and Long term imposed action) | 3.42 kPa |

Moment Capacity Check

Design action

$$M^* = \frac{wL^2}{8}$$

M*₁

6.11 kNm/m

M*₂

11.20 kNm/m

M*₃

7.74 kNm/m

AS1720.1: Clause 3.2.1.1

$$M_d \geq M^*$$

$$M_d = \phi k_1 k_4 k_6 k_9 k_{12} f_b Z_{eff}$$

where,

AS1720.1: Table 2.1

Design Capacity factor; φ

0.7

(primary member of residential building supporting an area larger than 25 m²)

AS1720.1: Table 2.3

Duration of Load action for Strength; k₁

1 Permanent action: 50+ years

0.57

2 Crowd Loads : 5 days

0.94

3 Permanent and Long term imposed action : 50+ years

0.57

Partial Seasoning Factor; k₄

AS1720.1: Clause 2.4.2.3

Unexposed Seasoned Timber

1

Temperature Modification Factor, k₆

AS1720.1: Clause 2.4.3

Non Tropical area

1

Strength Sharing Factor, k₉

Lecture Slides

Engineered Wood product

1

AS1720.1: Clause 3.2.4

Stability Factor, k₁₂

S₁, continuous lateral restraint

0

therefore; k₁₂

1

XLam Design Guide

Characteristic value, f_d

12 Mpa

Effective Section Modulus, Z_{eff}

$$Z_{eff} = \frac{EI_{eff}}{E_1} \times \frac{2}{t_p}$$

Z_{eff}

2.82E+06 mm³

1 M_{d1}

1.35E+07 Nmm

13.50 kNm/m

2 M_{d2}

2.23E+07 Nmm

22.27 kNm/m

3 M_{d3}

1.35E+07 Nmm

13.50 kNm/m

Moment Capacity

OK

Shear Capacity Check

$$V^* = \frac{wL_e}{2}$$

Design Action

where,

$$L_e = (L - (2 \cdot 1.5d))$$

3730 mm

3.73 m

1	V^*_1	5.04 kN/m
2	V^*_2	9.23 kN/m
3	V^*_3	6.38 kN/m

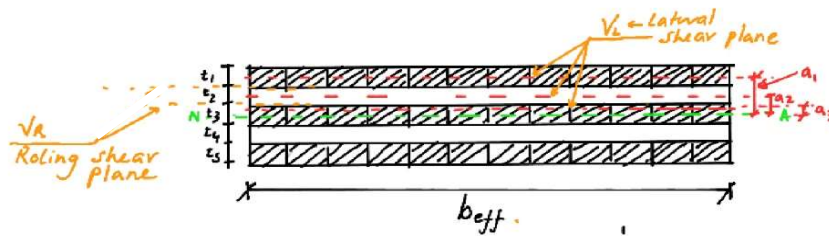
$$V_d \geq V^*$$

where,

AS1720.1: Clause 3.2.5

$$V_d = \frac{\phi k_1 k_4 k_6 f_s E I_{eff} b_{eff}}{(EQ)}$$

shear failure could occur in both longitudinal and rolling shear



XLam Design guide

Average Shear Strength f_s 2.5 MPa

Shear Strength perpendicular to grain $f_{s,90}$ 1.2 MPa

$$Q = Aa_i$$

a_1 65 mm

a_2 32.5 mm

a_3 11.25 mm

$(EQ)_L$ 2.5E+10 Nmm

$(EQ)_R$ 1.53E+10 Nmm

Modification factors similar to Moment Capacity calculation

Longitudinal Shear capacity

1	V_{dL1}	7.86E+04 N/m	78.62 kN/m
2	V_{dL2}	1.30E+05 N/m	129.65 kN/m
3	V_{dL3}	7.86E+04 N/m	78.62 kN/m

Rolling Shear Capacity

1	V_{dR1}	6.16E+04 N/m	61.62 kN/m
2	V_{dR2}	1.02E+05 N/m	101.62 kN/m
3	V_{dR3}	6.16E+04 N/m	61.62 kN/m

OK