

# NABERS Embodied emissions materials form

## New non-residential developments must complete this form

From 1 October 2023, all new non-residential developments must report on embodied emissions using this form in NSW, where the NSW government's State Environmental Planning Policy (Sustainable Buildings SEPP) 2022 applies. You must disclose the amounts of key materials at the development application and construction certificate stages.

[More on the Sustainable Buildings SEPP](#)

Embodied carbon emissions are generated across the full life cycle of a building from "cradle to grave". Embodied carbon made up 16% of the whole-of-life carbon footprint of Australia's buildings in 2019 [1]. The purpose of this form is to report on material quantities only, to support project team discussions about potential reduction in emissions from key materials. The form does not include embodied emissions factors. This reporting form will be updated to reflect the NABERS Embodied Carbon tool when it's available in 2024.

## Step 1: About the building

In the 'About the building' tab, you will add the location, function, and type of building you are planning to construct. You will also need to add information that describes the building, including gross floor area, number of floors, area of carpark, and more. Collecting this information will allow the NSW Government to compare similar buildings.

## Step 2: Quantity of materials

In the 'Quantity of materials' tab, you will add the amounts of materials that you will use to construct your building. You only need to complete those fields relevant to your building. Leave fields that aren't relevant to your building blank. We recognise that there will be uncertainty, particularly at DA stage, so please use your best estimates where information is unknown (e.g., based on past projects).

*How much do I need to include?*

You must include all parts of the building delivered by the main contractor, covering at least 80% of the total materials bill. For example, if you spent \$100,000 on materials, you need to include the material amounts of at least \$80,000 of those materials in this form.

Wherever possible, consider materials costs only, not labour, plant or equipment. However, where you cannot split out the materials costs, please simply be consistent in the way the costs are reported throughout the spreadsheet.

Enter the **quantity of materials** (excluding labour, plant, equipment, margins and taxes) for:

(1) Structure (substructure and superstructure) within the envelope of the building. Also include any ancillary buildings that are necessary for the main building to function (for example, plant that is in a separate building).

(2) Envelope (cladding, curtain walls, roofing, windows, doors etc.)

(3) Permanent internal walls and doors. At minimum, this should include all structural walls.

(4) External works (hard landscaping, carparks, etc.) outside of the building envelope.

Enter the **cost of materials** (excluding labour, plant, equipment, margins and taxes) for:

(5) Building services (mechanical, electrical, plumbing, vertical transport, etc.) required to run the core of the building. Exclude special equipment required by a particular tenant.

You must enter the amounts of materials in SI units (commonly known as the metric system). These are generally consistent across the various products on the market. However, you might need to convert the units of some materials (for example, convert volume to kg).

### Step 3: Certifier details

In the 'Certifier' tab you will add the details of the person who has entered data, and the person who has certified the accuracy of the data. The certifier must be a quantity surveyor, designer, engineer or NABERS assessor.

### Step 4: Attach to approval

Attach this Excel spreadsheet to your development application or construction certificate application.

The data collected in this form will be used by the NSW Government to inform future policy development.

### Help!

If you have general questions about reporting on the embodied emissions of your building, you should contact your local council or consent authority.

If you have technical questions about this spreadsheet, please contact NABERS:  
[nabers@environment.nsw.gov.au](mailto:nabers@environment.nsw.gov.au)

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[1] Green Building Council of Australia, 2021, <https://new.gbca.org.au/news/gbca-news/gbca-and-thinkstep-release-embodied-carbon-report/>

## Step 1: About the building

Fill out blue cells

Building location and site data	Value	Unit
Building address	35 Casino Drive	
Postcode	2470	
Town/city	Casino	
Distance to nearest major city/town		km
Project stage	Development Application	
New build or major renovation?	New build	
Brownfield or greenfield site?	Brownfield	

Floor area by NCC building classification	Gross (GFA)	Net (NLA/NSA/UFA)	Unit
<b>Please enter all floor areas relevant to your building. Leave areas blank if not applicable. Please enter Gross Floor Area (GFA) for all building classifications. Please also enter the corresponding net area (Net Lettable Area, Net Sellable Area or Usable Floor Area) where it is commonly used for that building classification.</b>			
Class 1a: Detached residential buildings			m <sup>2</sup>
Class 1b: Boarding houses and hostels			m <sup>2</sup>
Class 2: Multi-unit residential buildings			m <sup>2</sup>
Class 3: Other residential buildings			m <sup>2</sup>
Class 4: Residential inside non-residential			m <sup>2</sup>
Class 5: Office buildings	400		m <sup>2</sup>
Class 6: Retail buildings			m <sup>2</sup>
Class 7a: Carparks			m <sup>2</sup>
Class 7b: Warehouse-type buildings	5,132		m <sup>2</sup>
Class 8: Industrial buildings			m <sup>2</sup>
Class 9a: Healthcare buildings			m <sup>2</sup>
Class 9b: Civic buildings			m <sup>2</sup>
Class 9c: Aged care and personal care buildings			m <sup>2</sup>
Class 10a: Non-habitable buildings			m <sup>2</sup>
Class 10b: Miscellaneous structures			m <sup>2</sup>
Class 10c: Bushfire shelters			m <sup>2</sup>

Note
Required
Town/city/suburb/region automated from postcode (may not give exact town name)
Enter for rural/regional locations only
Required
Required
Required

Note
Required for Class 1a: Detached residential houses, townhouses
Required for Class 1b: Boarding house, guest house, hostel
Required for Class 2: Multi-unit residential, including apartment buildings
Required for Class 3: Other residential buildings
Required for Class 4: Residential building inside a non-residential building, e.g., caretaker residence
Required for Class 5: Office building
Required for Class 6: Retail building, e.g., shop, restaurant, café
Required for Class 7a: Carparks
Required for Class 7b: Warehouses, wholesalers and storage facilities
Required for Class 8: Industrial buildings, e.g., factories and workshops
Required for Class 9a: Healthcare, e.g., hospitals, clinics, day surgeries
Required for Class 9b: Civic buildings, e.g., theatres, civic centres, train stations
Required for Class 9c: Aged care and personal care
Required for Class 10a: Non-habitable buildings including sheds, carports and private garages
Required for Class 10b: Miscellaneous structures, including fences, masts, antennas, retaining walls
Required for Class 10c: Bushfire shelters not attached to a Class 1a building

<b>Comment</b>
Postcode of building
Town/city/suburb/region of the building site.
Declare the shortest route by road to your site from the centre of your nearest major city (>100,000 people). The route must be traversable by a semitrailer truck.
Stage of development

Gross Floor Area (GFA), as defined by the AIQS Australian Cost Management Manual
Net area (Net Lettable Area, Net Sellable Area, Usable Floor Area), as defined by the PCA's Method of Measurement
dence
walls and swimming pools

<b>Total</b>	5,532	0	m <sup>2</sup>
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<b>Project information</b>	<b>Value</b>	<b>Unit</b>
Total cost of project	14,817,000	AUD excl. GST
Building design life		years
Estimated envelope life		years
Estimated replacement cycle for mechanical services		years
Estimated replacement cycle for vertical transportation		years

<b>Dimensions of the building and the site</b>	<b>Value</b>	<b>Unit</b>
Site area	12,045	m <sup>2</sup>
Shared services or infrastructure	No	
Building footprint area	5,532	m <sup>2</sup>
Typical floor area (if different to building footprint area)		m <sup>2</sup>
Typical floor perimeter		m
Area of external carpark (not included in GFA)	767	m <sup>2</sup>
Area of external hardstand (not included in GFA)	4,789	m <sup>2</sup>
Area of other hard landscaping (not included in GFA)	0	m <sup>2</sup>
Number of floors/storeys above ground, including ground floor	1	no.
Number of floors/storeys below ground	0	no.
Number of floors/storeys of car parking	0	no.
Total height above ground	12	m

<b>Structural material choices</b>	<b>Value</b>	<b>Unit</b>
Foundation type	Spot/pad footing	
Frame type (dominant)	Steel	
Suspended floor type (typical)	Please select	
Describe low carbon materials specified in your building (e.g. green concrete, low carbon bricks)		

Required: Sum of m<sup>2</sup> inputs must be more than 0.

Note
Required
Required
Optional
Optional
Optional

Note
Required
Required
Required
Only needed if different to row above
Required
Required. Enter 0 if not applicable.
Required. Enter 0 if not applicable.
Required. Enter 0 if not applicable.
Required
Required. Enter 0 if not applicable.
Required. Enter 0 if not applicable.
Required

Note
Required
Required
Only needed for multi-storey buildings
Required



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Include labour, materials, transport, plant, equipment and professional fees. Exclude GST, land, finance, escalation and other costs.
If uncertain, enter 50 years

Total area of site to external boundary.
Indicate if there are shared services that the building utilises, or shared foundations, basement or podium
Total floor area of the ground floor measured to the outside edge of the floorplate.
Include all other impervious areas. For example, patios, paths and driveways (not already included in carparks and hardstands above).
Measured from the average finished grade to the highest point of the building, excluding protrusions (lighting rods, masts, chimneys, etc.)


Describe recycled content specified in your building (e.g. recycled steel)		
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Required



## Step 2: Quantity of materials

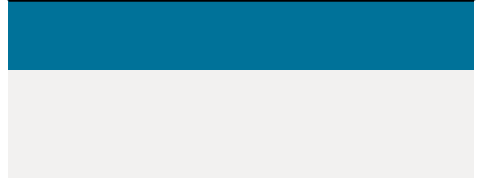
Complete all blue cells that are applicable to the building. Leave items that aren't applicable blank.

Fill out blue cells

Material category	Sub-category 1	Sub-category 2	Sub-category 3	Value
<b>Structure</b>				
<b>The structural parts of the building that are below ground (substructure) and above ground (superstructure). This includes fill below the substructure, foundations, basement levels, suspended floors, wall structure, roof structure, stairs, lift shafts and balconies. It excludes external areas such as hardstands, carparks, patios, etc.</b>				
Coverage of structural material spend	-	-	-	
Concrete in-situ	≤10 MPa	-	-	
Concrete in-situ	>10 MPa to ≤20 MPa	-	-	
Concrete in-situ	>20 MPa to ≤32 MPa	-	-	130.0
Concrete in-situ	>32 MPa to ≤40 MPa	-	-	340.0
Concrete in-situ	>40 MPa to ≤50 MPa	-	-	
Concrete in-situ	>50 MPa to ≤60 MPa	-	-	
Concrete in-situ	>60 MPa to ≤80 MPa	-	-	
Concrete in-situ	>80 MPa to ≤100 MPa	-	-	
Concrete in-situ	>100 MPa	-	-	
Concrete pre-cast panel	-	-	-	130.0
Concrete block	Hollow core	-	-	
Concrete block/brick	Solid	-	-	70.0
Concrete block/brick	Solid AAC	-	-	
Mortar	-	-	-	
Reinforcing steel	Bar & mesh	-	-	17,000
Reinforcing steel	Fibre & strand	-	-	4,000
Structural steel	Hot rolled structural	-	-	60

Unit of measure	Comment	AIQS ACMM Code
%	Required. Coverage of <u>spend</u> for structural elements entered below. Minimum requirement = 80%. Exclude head contractor preliminaries and margins.	
m <sup>3</sup>	Please enter reinforcing steel as part of "Reinforcing steel" below	01_SB or 02-11
m <sup>3</sup>	Please enter reinforcing steel as part of "Reinforcing steel" below	01_SB or 02-11
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m <sup>3</sup>	Please enter reinforcing steel as part of "Reinforcing steel" below	01_SB or 02-11
m <sup>3</sup>	Please enter reinforcing steel in relevant line items below. If not known at DA stage, please make your best estimate. If not known at CC stage, please ask your supplier.	01_SB or 02-11
m <sup>3</sup>	Enter as <u>cubic metres</u> , calculated as (area in m <sup>2</sup> ) * (thickness in mm / 1000). Please include all block fill concrete and all reinforcing steel in relevant line items above/below.	01_SB
m <sup>3</sup>	Enter as <u>cubic metres</u> , calculated as (area in m <sup>2</sup> ) * (thickness in mm / 1000)	01_SB
m <sup>3</sup>	Solid Aerated Autoclaved Concrete (AAC) block. Enter as <u>cubic metres</u> , calculated as (area in m <sup>2</sup> ) * (thickness in mm / 1000).	01_SB
kg		01_SB
kg	<b>Include all reinforcing steel bar/mesh in the building's structure in this row.</b> Usually this is calculated as kg/m <sup>3</sup> per concrete element and then summed. Example: 10 m <sup>3</sup> of 40 MPa concrete @ 100 kg/m <sup>3</sup> + 5 m <sup>3</sup> of 50 MPa concrete @ 150 kg/m <sup>3</sup> = 1,750 kg reinforcing steel.	01_SB or 02-11
kg	<b>Include all steel fibre reinforcing and steel strand in the building's structure in this row.</b>	01_SB or 02-11
t	Examples include universal beams, universal columns and welded beams	01_SB

**ICMS3 (Level 3 Codes Construction)**



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Structural steel	Cold formed structural	-	-	20
Structural steel	Other welded structural	-	-	
Structural steel	Plate	-	-	
Structural steel	Sheet	-	-	
Stainless steel	-	-	-	
Reinforced concrete piles	Concrete	-	-	
Reinforced concrete piles	Steel reinforcing	-	-	
Steel piles	-	-	-	
Timber poles/piles	-	-	-	
Timber (solid)	Sawn softwood	-	-	
Timber (solid)	Sawn hardwood	-	-	
Timber (engineered)	CLT	-	-	
Timber (engineered)	Glulam	-	-	
Timber (engineered)	LVL	-	-	
Timber (engineered)	OSB	-	-	
Brick	Heat cured	-	-	
Structural Insulated Panel (SIP)	Steel outer	-	-	
Structural Insulated Panel (SIP)	Aluminium outer	-	-	
Structural Insulated Panel (SIP)	Engineered timber outer	-	-	
Fill	-	-	-	
Sand & gravel	-	-	-	
Waterproofing membrane	Bituminous	-	-	
Waterproofing membrane	Polyethylene	-	-	
Other structural (Describe and add unit >>)		-	-	
Other structural (Describe and add unit >>)		-	-	
Other structural (Describe and add unit >>)		-	-	

## Envelope



t	Examples include C purlins, Z purlins and all light gauge steel framing	01_SB
t		01_SB
t	Include any allowance for connections here	01_SB
t		01_SB
t	Primarily for engineered timber structure connections	02_11
m <sup>3</sup>	Please enter reinforcing steel in the line below. If not known at DA stage, please make your best estimate. If not known at CC stage, please ask your supplier.	01_SB
kg	If not known at DA stage, please make your best estimate. If not known at CC stage, please ask your supplier.	01_SB
t	Where concrete and reinforcing steel are also used, enter these in the rows above.	01_SB
m <sup>3</sup>	Where concrete and reinforcing steel are also used, enter these in the rows above.	01_SB
m <sup>3</sup>		02_11
m <sup>3</sup>		02_11
m <sup>3</sup>		02_11
m <sup>3</sup>		02_11
m <sup>3</sup>		02_11
m <sup>3</sup>	Enter as <u>cubic metres</u> , calculated as (area of wall in m <sup>2</sup> ) * (thickness in mm / 1000)	02_11
m <sup>3</sup>	Enter as <u>cubic metres</u> , calculated as (area of wall in m <sup>2</sup> ) * (thickness in mm / 1000)	02_11
m <sup>2</sup>		01_SB
m <sup>2</sup>		01_SB
m <sup>2</sup>		01_SB
t	Include purchased material only. Exclude site-won material.	01_SB
t	Include purchased material only. Exclude site-won material and sand/gravel in concrete.	01_SB
m <sup>2</sup>		01_SB
m <sup>2</sup>		01_SB

	Please enter a description for any structural material that does not fit a predefined classification
	Please enter a description for any structural material that does not fit a predefined classification
	Please enter a description for any structural material that does not fit a predefined classification



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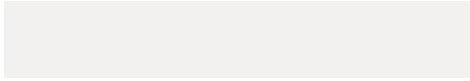


**The skin of the building that separates the internal building from the external environment.  
This includes the roof cladding, wall cladding, windows, doors and internal/external shading. It also includes insulation and the internal wall lining of envelope**

Coverage of envelope material spend	-	-	-	
Roof cladding	Profiled steel	-	-	5,722
Roof cladding	Profiled aluminium	-	-	
Roof cladding	Profiled zinc	-	-	
Roof cladding	Membrane	-	-	
Roof cladding	Tiles (traditional clay)	-	-	
Roof cladding	Tiles (concrete)	-	-	
Roof cladding	Other (Please describe >>)			
Wall cladding	Bricks (heat cured)	-	-	
Wall cladding	Bricks (air dried)	-	-	
Wall cladding	Bricks (under fired)	-	-	
Wall cladding	Bricks (concrete)	-	-	
Wall cladding	Mortar and render	-	-	
Wall cladding	Profiled steel	-	-	2,299
Wall cladding	Profiled aluminium	-	-	8
Wall cladding	Profiled zinc	-	-	
Wall cladding	GRC cladding	-	-	
Wall cladding	Timber weatherboards	-	-	
Wall cladding	Fibre cement board	-	-	
Wall cladding	Terracotta	-	-	

**ope walls.**

%	Required. Coverage of <u>spend</u> for the envelope items you have entered below. Minimum requirement = 80%. Exclude head contractor preliminaries and margins.	
m <sup>2</sup>	Enter as m <sup>2</sup> of roof area. Exclude allowances for overlap in the roofing sheets. This row includes all metal-coated and pre-painted steel sheets where steel is the base metal. Examples include: galvanised steel, zinc-aluminium (zincalume) coated steel and zinc-aluminium-magnesium (ZAM) coated steel, whether painted or unpainted.	05_RF
m <sup>2</sup>	Enter as m <sup>2</sup> of roof area. Exclude allowances for overlap in the roofing sheets. This row also includes pre-painted aluminium sheets.	05_RF
m <sup>2</sup>	Enter as m <sup>2</sup> of roof area. Exclude allowances for overlap in the roofing sheets. This row also includes pre-painted zinc sheets.	05_RF
m <sup>2</sup>	Enter as m <sup>2</sup> of roof area. Exclude allowances for overlap in the membrane sheets.	05_RF
m <sup>2</sup>	Enter as m <sup>2</sup> of roof area. Exclude allowances for overlap between the tiles.	05_RF
m <sup>2</sup>	Enter as m <sup>2</sup> of roof area. Exclude allowances for overlap between the tiles.	05_RF
m <sup>2</sup>	Please enter a description for any roofing that does not fit a predefined classification	05_RF
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area. Heat-cured bricks use a kiln or furnace to raise the brick temperature above ambient temperature during curing process.	06_EW
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area. Air-dried bricks are cured using ambient temperature.	06_EW
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area.	06_EW
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area	06_EW
kg		06_EW
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area. Exclude allowances for overlap in the cladding sheets, offcuts, etc. This row includes all metal-coated and pre-painted steel sheets where steel is the base metal. Examples include: galvanised steel, zinc-aluminium (zincalume) coated steel and zinc-aluminium-magnesium (ZAM) coated steel, whether painted or unpainted.	06_EW
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area. Exclude allowances for overlap in the cladding sheets, offcuts, etc. This row also includes pre-painted aluminium sheets.	06_EW
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area. Exclude allowances for overlap in the cladding sheets, offcuts, etc. This row also includes pre-painted zinc sheets.	06_EW
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area. GRC = Glass Reinforced Concrete.	06_EW
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area. Exclude allowances for overlap between weatherboards, offcuts, etc.	06_EW
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area. Exclude allowances for offcuts, etc.	06_EW
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area. Exclude allowances for offcuts, etc.	06_EW



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Wall cladding	Brick tiles / veneers	-	-	
Wall cladding	Plasterboard	-	-	
Wall cladding	Plywood	-	-	
Wall cladding	Other (Please describe >>)		-	
Windows & doors	Aluminium frame	Single glazed	-	
Windows & doors	Aluminium frame	Double glazed	-	
Windows & doors	Aluminium frame	Triple glazed	-	
Windows & doors	Timber frame	Single glazed	-	
Windows & doors	Timber frame	Double glazed	-	
Windows & doors	Timber frame	Triple glazed	-	
Windows & doors	uPVC frame	Single glazed	-	
Windows & doors	uPVC frame	Double glazed	-	
Windows & doors	uPVC frame	Triple glazed	-	
Windows & doors	Frameless	Single glazed	-	
Windows & doors	Frameless	Double glazed	-	
Windows & doors	Frameless	Triple glazed	-	
Windows & doors	Other (Please describe >>)		-	
Curtain wall	Single skin façade	Glazed panel	Single glazed	135
Curtain wall	Single skin façade	Glazed panel	Double glazed	
Curtain wall	Single skin façade	Glazed panel	Triple glazed	
Curtain wall	Single skin façade	Opaque panel	Aluminium cladding	
Curtain wall	Single skin façade	Opaque panel	GRC cladding	
Curtain wall	Single skin façade	Opaque panel	Insulated shadow box	
Curtain wall	Single skin façade	Opaque panel	Brick cladding	
Curtain wall	Single skin façade	Opaque panel	Stone cladding	
Curtain wall	Double skin façade	Glazed panel	Single glazed	
Curtain wall	Double skin façade	Glazed panel	Double glazed	

m <sup>2</sup>	Enter as m <sup>2</sup> of wall area. Exclude allowances for offcuts, etc.	06_EW
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area. Exclude allowances for offcuts, etc. Include both external wall linings and internal wall linings for envelope walls.	12_WF or 06_EW
m <sup>2</sup>	Enter as m <sup>2</sup> of wall area. Exclude allowances for offcuts, etc. Include both external wall linings and internal wall linings for envelope walls.	12_WF or 06_EW
m <sup>2</sup>	Please enter a description for any wall cladding that does not fit a predefined classification	06_EW or 12_WF
m <sup>2</sup>	Include all single glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED
m <sup>2</sup>	Include all double glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED
m <sup>2</sup>	Include all triple glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED
m <sup>2</sup>	Include all single glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED
m <sup>2</sup>	Include all double glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED
m <sup>2</sup>	Include all triple glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED
m <sup>2</sup>	Include all single glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED
m <sup>2</sup>	Include all double glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED
m <sup>2</sup>	Include all triple glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED
m <sup>2</sup>	Include all single glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED
m <sup>2</sup>	Include all double glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED
m <sup>2</sup>	Include all triple glazing, including standard, toughened, laminated and low-E	07_WW or 08_ED
m <sup>2</sup>	Please enter a description for any windows or doors that do not fit a predefined classification	07_WW or 08_ED
m <sup>2</sup>	Please declare all single-skin façade area in this section. All double-skin façade area should be entered in the next section. Include all single glazing, including standard, toughened, laminated and low-E	06_EW
m <sup>2</sup>	Include all double glazing, including standard, toughened, laminated and low-E	06_EW
m <sup>2</sup>	Include all triple glazing, including standard, toughened, laminated and low-E	06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>	GRC = Glass-fibre Reinforced Concrete	06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>	Please declare all double-skin façade area in this section. Please declare as the area of the curtain wall and do not enter the inner and outer skins twice.	06_EW
m <sup>2</sup>	Include all single glazing, including standard, toughened, laminated and low-E.	
m <sup>2</sup>	The type of glazing refers to the building's envelope wall, not including the outer skin	06_EW

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Curtain wall	Double skin façade	Glazed panel	Triple glazed	
Curtain wall	Double skin façade	Opaque panel	Aluminium cladding	
Curtain wall	Double skin façade	Opaque panel	GRC cladding	
Curtain wall	Double skin façade	Opaque panel	Insulated shadow box	
Curtain wall	Double skin façade	Opaque panel	Brick cladding	
Curtain wall	Double skin façade	Opaque panel	Stone cladding	
Curtain wall	Other (Please describe >>)		-	
Stick-framed wall system	Aluminium frame	Glazed section	Single glazed	
Stick-framed wall system	Aluminium frame	Glazed section	Double glazed	
Stick-framed wall system	Aluminium frame	Glazed section	Triple glazed	
Stick-framed wall system	Aluminium frame	Opaque section	Aluminium cladding	
Stick-framed wall system	Aluminium frame	Opaque section	GRC cladding	
Stick-framed wall system	Aluminium frame	Opaque section	Insulated shadow box	
Stick-framed wall system	Aluminium frame	Opaque section	Brick cladding	
Stick-framed wall system	Aluminium frame	Opaque section	Stone cladding	
Stick-framed wall system	Steel frame	Glazed section	Single glazed	
Stick-framed wall system	Steel frame	Glazed section	Double glazed	
Stick-framed wall system	Steel frame	Glazed section	Triple glazed	
Stick-framed wall system	Steel frame	Opaque section	Aluminium cladding	
Stick-framed wall system	Steel frame	Opaque section	GRC cladding	
Stick-framed wall system	Steel frame	Opaque section	Insulated shadow box	
Stick-framed wall system	Steel frame	Opaque section	Brick cladding	
Stick-framed wall system	Steel frame	Opaque section	Stone cladding	
Stick-framed wall system	Other (Please describe >>)		-	
Wall louvre system	Aluminium	-	-	
External shading system	Aluminium frame	Aluminium cladding	-	15
External shading system	Aluminium frame	GRC cladding	-	
External shading system	Aluminium frame	Terracotta cladding	-	
External shading system	Aluminium frame	Stone cladding	-	
External shading system	Aluminium frame	Pre-cast concrete	-	

m <sup>2</sup>	The type of glazing refers to the building's envelope wall, not including the outer skin	06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>	GRC = Glass-fibre Reinforced Concrete	06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>	Please enter a description for any curtain wall that does not fit a predefined classification	06_EW
m <sup>2</sup>	Include all single glazing, including standard, toughened, laminated and low-E	06_EW
m <sup>2</sup>	Include all double glazing, including standard, toughened, laminated and low-E	06_EW
m <sup>2</sup>	Include all triple glazing, including standard, toughened, laminated and low-E	06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>	GRC = Glass-fibre Reinforced Concrete	06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>	Include all single glazing, including standard, toughened, laminated and low-E	06_EW
m <sup>2</sup>	Include all double glazing, including standard, toughened, laminated and low-E	06_EW
m <sup>2</sup>	Include all triple glazing, including standard, toughened, laminated and low-E	06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>	GRC = Glass-fibre Reinforced Concrete	06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>	Please enter a description for any wall system that does not fit a predefined classification	06_EW
m <sup>2</sup>		06_EW
m <sup>2</sup>	Please enter as m <sup>2</sup> of shaded area = linear metres * (width in mm / 1000)	06_EW
m <sup>2</sup>	Please enter as m <sup>2</sup> of shaded area = linear metres * (width in mm / 1000). GRC = Glass-fibre Reinforced Concrete.	06_EW
m <sup>2</sup>	Please enter as m <sup>2</sup> of shaded area = linear metres * (width in mm / 1000)	06_EW
m <sup>2</sup>	Please enter as m <sup>2</sup> of shaded area = linear metres * (width in mm / 1000)	06_EW
m <sup>2</sup>	Please enter as m <sup>2</sup> of shaded area = linear metres * (width in mm / 1000)	06_EW



External shading system	Aluminium frame	Timber	-	
External shading system	Aluminium frame	Glass (opaque)	-	
External shading system	Aluminium frame	Steel	-	
External shading system	Other (Please describe >>)		-	
Roller doors	Steel profile	-	-	100
Roller doors	Hardwood over steel	-	-	
Roller doors	Softwood over steel	-	-	
Revolving doors	Glass/aluminium/steel	-	-	
Fire-rated doors	Engineered timber	-	-	
Fire-rated doors	Steel	-	-	
Fire-rated doors	Aluminium/glass	-	-	
Insulation	Glass wool / fibreglass	-	-	
Insulation	Stone wool	-	-	
Insulation	Polyester	-	-	
Insulation	Expanded polystyrene	-	-	
Insulation	Other (Please describe >>)		-	
Other (Please describe and add unit >>)	Insulated Panel	-	-	4,221.7
Other (Please describe and add unit >>)	Concrete Tilt Panel	-	-	
Other (Please describe and add unit >>)		-	-	

## Permanent internal walls and doors

Walls and doors within the building that are either structural or designed to be permanent.

Coverage of material spend on permanent internal walls and doors

Interior wall (permanent)	Steel (light framing)	-	-	
Interior wall (permanent)	Timber framing	-	-	
Interior wall (permanent)	AAC panel (reinforced)	-	-	
Interior wall (permanent)	Concrete-filled steel panel	-	-	
Interior wall (permanent)	Plasterboard	-	-	458
Interior wall (permanent)	Plywood	-	-	

m <sup>2</sup>	Please enter as m <sup>2</sup> of shaded area = linear metres * (width in mm / 1000)	06_EW
m <sup>2</sup>	Please enter as m <sup>2</sup> of shaded area = linear metres * (width in mm / 1000)	06_EW
m <sup>2</sup>	Please enter as m <sup>2</sup> of shaded area = linear metres * (width in mm / 1000)	06_EW
m <sup>2</sup>	Please enter as m <sup>2</sup> of shaded area = linear metres * (width in mm / 1000)	06_EW
m <sup>2</sup>	Please note unit is <u>square metres</u> , not quantity	08_ED
m <sup>2</sup>	Please note unit is <u>square metres</u> , not quantity	08_ED
m <sup>2</sup>	Please note unit is <u>square metres</u> , not quantity	08_ED
no.		08_ED
no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	08_ED
no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	08_ED
no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	08_ED
m <sup>2</sup>	Please include both wall and ceiling insulation	05_RF or 06_EW
m <sup>2</sup>	Please include both wall and ceiling insulation	05_RF or 06_EW
m <sup>2</sup>	Please include both wall and ceiling insulation	05_RF or 06_EW
m <sup>2</sup>	Please include both wall and ceiling insulation	05_RF or 06_EW
m <sup>2</sup>	Please include both wall and ceiling insulation	05_RF or 06_EW
m <sup>2</sup>	Please enter a description for any envelope material that does not fit a predefined classification	
m <sup>2</sup>	Please enter a description for any envelope material that does not fit a predefined classification	
	Please enter a description for any envelope material that does not fit a predefined classification	



%	Enter the % coverage of <u>spend</u> for the items you have entered below. There is no minimum requirement: enter what you know. This should include all structural walls. Exclude head contractor preliminaries and margins.	
t		09_NW
m <sup>3</sup>		09_NW
m <sup>2</sup>	Panels of autoclaved aerated concrete (AAC) with reinforcing steel. E.g., Hebel.	09_NW or 12_WF
m <sup>2</sup>	Panels made from a steel sheet outer with an aerated concrete core. E.g., Speedpanel.	09_NW or 12_WF
m <sup>2</sup>	Enter as single-layer equivalent. If using 2 layers, multiply the area by 2.	09_NW or 12_WF
m <sup>2</sup>	Enter as single-layer equivalent. If using 2 layers, multiply the area by 2.	09_NW or 12_WF

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Interior wall (permanent)	Fibre cement sheet	-	-	
Interior wall (permanent)	Insulation	-	-	
Interior wall (permanent)	Glass	-	-	41.0
Interior wall (permanent)	Other (Please describe >>)		-	
Internal door (permanent)	Aluminium/glass	-	-	6
Internal door (permanent)	Timber/glass	-	-	13
Internal door (permanent)	Timber solid lightweight	-	-	
Internal door (permanent)	Fire resistant	-	-	
Internal door (permanent)	Steel	-	-	
Internal door (permanent)	Insulated Panel		-	11
Other (Please describe and add unit >>)		-	-	
Other (Please describe and add unit >>)		-	-	
Other (Please describe and add unit >>)		-	-	

## Services

**Building services included within the main building contract. If the building components that are the subject of the development application or the construction are base building only, then only enter these items. If you cannot split services by type, please enter them all in the "Other services" category at the bottom values as material costs in dollars.**

Mechanical services	-	-	-	
Vertical transportation	-	-	-	
Electrical services	-	-	-	
Solar photovoltaic installations	-	-	-	
Plumbing/hydraulic services	-	-	-	
Fire services				
Other services (Please describe)		-	-	

## External works

**The materials associated with hard landscaping and outbuildings on the site but outside the building envelope. This includes hardstands, carparks, driveways, covered walkways, decks, patios, awnings, fences, gates, etc. Soft landscaping should be excluded.**

m <sup>2</sup>	Enter as single-layer equivalent. If using 2 layers, multiply the area by 2.	09_NW or 12_WF
m <sup>2</sup>		09_NW or 12_WF
m <sup>2</sup>		09_NW or 12_WF
m <sup>2</sup>	Please enter a description for any internal wall that does not fit a predefined classification	09_NW or 12_WF
no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	11_ND
no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	11_ND
no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	11_ND
no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	11_ND
no.	Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.	11_ND
no.	Please enter a description for any internal door that does not fit a predefined classification	11_ND
	Please enter a description for any material that does not fit a predefined classification	
	Please enter a description for any material that does not fit a predefined classification	
	Please enter a description for any material that does not fit a predefined classification	

## Unit of measure

### ction certificate

#### 1. Enter all

AUD excl. GST	Where possible, enter material costs excluding labour, plant, equipment, margins and taxes	28_SS
AUD excl. GST	Where possible, enter material costs excluding labour, plant, equipment, margins and taxes	28_SS
AUD excl. GST	Electrical services including the main power supply, backup generators, security and communications. Excluding solar installations.	26_LP
AUD excl. GST	Where possible, enter material costs excluding labour, plant, equipment, margins and taxes.	26_LP_LPGP
AUD excl. GST	Where possible, enter material costs excluding labour, plant, equipment, margins and taxes	18_PD and 19_WS
AUD excl. GST	Where possible, enter material costs excluding labour, plant, equipment, margins and taxes	25_FPSS04 or 39_XWAW_03 or 41_XF
AUD excl. GST	Please group all other services here, meaning that coverage will always be 100% for services. Enter only the material costs (excluding labour, plant, equipment, margins and taxes).	29_SS or multiple



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Coverage of spend on external works	-	-	-	
Asphalt	-	-	-	
Concrete in-situ	≤10 MPa	-	-	
Concrete in-situ	>10 MPa to ≤20 MPa	-	-	
Concrete in-situ	>20 MPa to ≤32 MPa	-	-	900.0
Concrete in-situ	>32 MPa to ≤40 MPa	-	-	
Concrete in-situ	>40 MPa to ≤50 MPa	-	-	
Concrete in-situ	>50 MPa	-	-	
Pavers, bricks and blocks	Concrete	-	-	
Pavers, bricks and blocks	Clay	-	-	
Reinforcing steel	Bar & mesh	-	-	18,000
Reinforcing steel	Fibre & strand	-	-	
Structural steel	-	-	-	
Structural aluminium	-	-	-	
External roof/wall cladding	Polycarbonate	-	-	
External roof/wall cladding	PVC	-	-	
External roof/wall cladding	Bitumen sheet	-	-	
External roof/wall cladding	Steel profile	-	-	
Fill	-	-	-	
Sand & gravel	-	-	-	
Timber (solid)	Sawn softwood	-	-	
Timber (solid)	Sawn hardwood	-	-	
Timber (engineered)	CLT	-	-	
Timber (engineered)	Glulam	-	-	
Timber (engineered)	LVL	-	-	
Timber (engineered)	OSB	-	-	
Fabric (awning/sunshade)				
Other (Please describe and add unit >>)		-	-	
Other (Please describe and add unit >>)		-	-	

%	Required. Coverage of <u>spend</u> for external works (excluding soft landscaping) entered below. Minimum requirement = 80%. Exclude head contractor preliminaries and margins.	
t		33_XR
m <sup>3</sup>	Please enter reinforcing steel as part of "Reinforcing steel" below	33_XR or 34_XN or 35_XB or 36_XL
m <sup>3</sup>	Please enter reinforcing steel as part of "Reinforcing steel" below	33_XR or 34_XN or 35_XB or 36_XL
m <sup>3</sup>	Please enter reinforcing steel as part of "Reinforcing steel" below	33_XR or 34_XN or 35_XB or 36_XL
m <sup>3</sup>	Please enter reinforcing steel as part of "Reinforcing steel" below	33_XR or 34_XN or 35_XB or 36_XL
m <sup>3</sup>	Please enter reinforcing steel as part of "Reinforcing steel" below	33_XR or 34_XN or 35_XB or 36_XL
m <sup>3</sup>	Please enter reinforcing steel as part of "Reinforcing steel" below	33_XR or 34_XN or 35_XB or 36_XL
m <sup>2</sup>		33_XR
m <sup>2</sup>		33_XR
kg	<b>Include all reinforcing steel bar/mesh in the external works in this row.</b> Usually this is calculated as kg/m <sup>3</sup> per concrete element and then summed. Example: 10 m <sup>3</sup> of 40 MPa concrete @ 100 kg/m <sup>3</sup> + 5 m <sup>3</sup> of 50 MPa concrete @ 150 kg/m <sup>3</sup> = 1,750 kg reinforcing steel.	33_XR or 34_XN or 35_XB or 36_XL
kg	<b>Include all steel fibre reinforcing and steel strand in the external works in this row.</b>	33_XR or 34_XN or 35_XB or 36_XL
t		02_11
t	Includes structures, louvre systems, etc.	35_XB
m <sup>2</sup>	Enter as profiled polycarbonate sheet that would ordered, including allowance for overlap	35_XB
m <sup>2</sup>	Enter as profiled PVC sheet that would ordered, including allowance for overlap	35_XB
m <sup>2</sup>	Enter as bituminous sheet that would ordered, including allowance for overlap	35_XB
m <sup>2</sup>	Enter as profiled steel sheet that would ordered, including allowance for overlap	35_XB
t	Include purchased material only. Exclude site-won material.	33_XR or 34_XN or 35_XB or 36_XL
t	Include purchased material only. Exclude site-won material and sand/gravel in concrete.	33_XR or 34_XN or 35_XB or 36_XL
m <sup>3</sup>		33_XR or 34_XN or 35_XB or 36_XL
m <sup>3</sup>		33_XR or 34_XN or 35_XB or 36_XL
m <sup>3</sup>		33_XR or 34_XN or 35_XB or 36_XL
m <sup>3</sup>		33_XR or 34_XN or 35_XB or 36_XL
m <sup>3</sup>		33_XR or 34_XN or 35_XB or 36_XL
m <sup>3</sup>		33_XR or 34_XN or 35_XB or 36_XL
m <sup>3</sup>		33_XR or 34_XN or 35_XB or 36_XL
m <sup>2</sup>		35_XB or 36_XL
	Please enter a description for any external works that does not fit a predefined classification	
	Please enter a description for any external works that does not fit a predefined classification	



Other (Please describe and add unit >>)

-

-

Please enter a description for any external works that does not fit a predefined classification

### Step 3: Certifier details

Fill out blue cells

The material quantities must be determined through an itemised list of building materials (such as a bill of quantities) and certified by a quantity surveyor, designer, engineer or NABERS Assessor.

Person that completed this form	Value	Note
Name	Suzie Robinson	Required
Company	Spaceframe Buildings Pty Ltd	Required
ABN	42009930554	
Profession	Assistand Design Manager	Required
Qualification or registration	Architect - BOAQ 5196	Required

Person that certified the details in this form	Value	Note
Name	Justin Mendiolea	Required
Company	Spaceframe Buildings Pty Ltd	Required
ABN	42009930554	
Profession	Chief Engineer	Required
Qualification or registration	RPEQ 19751; NER 3591897	Required

Confirmation of certification	Value	Note
Are 80% of material costs captured for the building's structure, envelope and external works?	Yes	Required
If no - why not?		

#### Additional comments from data provider

#### Additional comments of certifier

Attach this Excel spreadsheet to your development application or construction certificate application.

**This version:**

1.20

**Version history:**

1.00	01-October-2023	Initial version.
1.10	12-October-2023	Error on 'Instructions' tab - changed 'cost of materials' for (1)-(4) to 'quantity of materials'.
1.20	24-October-2023	Manual check for updates using button (instead of each time the sheet is opened).