

CLIMATE ZONE 1

BCA Energy and Water Efficiency Verification OPTION 2 - ELEMENTAL PROVISIONS

Deemed-to-Satisfy Solutions for Class 1 and 10 Buildings and Structures

Building Details

Type of Building			
Lot Number		Street Number	
Street Name			
Town or Suburb		Postcode	
Name of Owner			
Name of Builder			

NOTE: This verification sheet is designed to be used in conjunction with the Deemed-to-Satisfy (DTS) Provisions of the Building Code of Australia 2012 Part 3.12 and Western Australia Additions. It should not replace the BCA.

The relevant building surveyor must ensure that plans and specifications comply with the Building Code of Australia and any other relevant legislation before issuing a certificate of design compliance.

The information contained in this verification sheet is intended for general guidance only and must not be relied upon in any particular set of circumstances.

If you require assistance in filling out this sheet, please contact a suitably qualified person such as a building surveyor or energy assessor.

Compliance with BCA 3.12.0(a)(ii)					
Part.12.1 BUILDING FABRIC					
3.12.1.1 Building fabric thermal insulation					Yes
All required insulation will be installed in accordance with 3.12.1.1 , the Manufacturer's Specifications, and AS/NZS 4859.1					
3.12.1.2 Roofs					
A roof and/or ceiling that is part of the envelope will achieve the minimum total R-Value as specified in Table 3.12.1.1a in an downwards direction of heat flow.					
Roof Construction (From Figure 3.12.1.1)	Roof Upper Surface Solar Absorptance Value	R-Value of construction	Total R-Value Specified by Table 3.12.1.1a	Total R-Value Required (including any concessions and adjustments)	R-Value of Insulation to be Installed
	Not more than 0.4 <small>(light colour roof e.g. light cream or off white)</small>		R4.1		
	More than 0.4 but not more than 0.6 <small>(medium colour roof e.g. light grey, galvanised steel-dull, zinc aluminium-dull, or yellow, buff)</small>		R4.6		
	More than 0.6 <small>(dark colour roof e.g. red, green, or slate-dark grey)</small>		R5.1		

Compliance with BCA 3.12.0(a)(ii) Continued

N/A

Yes

3.12.1.2 Roofs continued

For roof construction types that are not provided for by Figure 3.12.1.1, documentary evidence is attached which demonstrates the R-Value of the construction and any added insulation.

This building will have exhaust fans, flues or recessed downlights which results in a reduction of 0.5% or more of the ceiling insulation. In accordance with **3.12.1.2(e)**, the R-Value of the remaining ceiling insulation will be increased in accordance with **Table 3.12.1.1b** – documentary evidence is attached.

This building has a metal roof fixed to metal purlins, rafters or battens and either does not have a ceiling lining or the ceiling lining is attached to the same metal purlins, rafters or battens. Thermal breaks not less than R0.2 will be installed in accordance with **3.12.1.2(c)**

3.12.1.3 Roof lights

The roof lights are not required for compliance with Part 3.8 (Health and amenity) and the aggregate area is less than 3% of the total floor area of the space they serve will comply with the SHGC and total U-Value requirements of **Table 3.12.1.2** – documentary evidence is attached.

The roof lights are required for compliance with Part 3.8 and have an area of not more than 150% of the minimum area required by Part 3.8.5 and have transparent and translucent elements, including any imperforate ceiling diffuser with an SHGC of not more than 0.29 and a total U-value of not more than 2.9.

3.12.1.4 External Walls

An external wall that is part of the envelope must achieve a minimum total R-Value as specified in Table 3.12.1.3a or satisfy one of the options as specified in Table 3.12.1.3b.

Wall Construction Type
(From **Figure 3.12.1.3**)

R-Value of construction

Minimum Total R-Value Required

R-Value of Added Insulation

N/A

Yes

R2.8 or if shaded in accordance with **Figure 3.12.1.2, R2.4**

The external walls have a surface density greater than 220kg/m². The wall of the storey other than a storey with another storey above is shaded by a verandah, balcony, eaves, carport or the like which projects at a minimum angle of 15degrees in accordance with **Figure 3.12.1.2** and where the external walls are not shaded and there is another storey above, external glazing complies with **3.12.2.1** with the applicable value for C_{SHGC} in **Table 3.12.2.1** reduced by 15%; and the lowest storey containing habitable rooms has a concrete slab-on-ground floor or masonry internal walls. A minimum R0.5 insulation will be added.

The external walls have a surface density greater than 220kg/m². The wall is shaded with a verandah, balcony, eaves, carport or the like which projects at a minimum angle of 15 degrees in accordance with **Figure 3.12.1.2**; and external glazing complies with **3.12.2.1** with the applicable value for C_{SHGC} in **Table 3.12.2.1** reduced by 15% and the lowest storey containing habitable rooms has a concrete-on-ground floor and the internal walls are masonry. No further insulation is required.

For wall construction types that are not provided for by **Figure 3.12.1.3**, documentary evidence is attached demonstrating the R-Value of the construction and any added insulation.

Compliance with BCA 3.12.0(a)(ii) Continued	N/A	Yes
3.12.1.4 External Walls continued		
<p>This building has lightweight external cladding such as weatherboards, fibre cement or metal sheeting fixed to a metal frame that does not have a wall lining or has a wall lining attached to the same metal frame. Thermal breaks of R0.2 will be installed in accordance with 3.12.1.4(b).</p>		
3.12.1.5 Floors <i>(only applicable to floors forming part of the envelope)</i>		
<p>The suspended floor other than intermediate suspended floors achieves the Total R-value specified in Table 3.12.1.4</p>	R1.0	
<p>This building has a suspended floor with an in-slab heating or cooling system. Insulation required under the slab may include insulation installed to meet the requirements of Table 3.12.1.4.</p>	R1.0 vertical edge of perimeter and R2.0 underneath the slab	
<p>This building has a concrete slab-on-ground floor with no in-slab heating system.</p>	Nil	
<p>This building has a concrete slab on ground with in-slab heating or cooling system. Water resistant insulation will be added in accordance with 3.12.1.5(c) and (d).</p>	R1.0 vertical edge of perimeter	
<p>This building has a suspended floor that is enclosed beneath. In accordance with 3.12.1.5(a)(iii), a barrier to prevent convection will be installed below floor level between the airspace under the floor and any wall cavities.</p>		
3.12.1.6 Class 10a buildings <i>(if attached to a Class 1, it must satisfy ONE of the options in 3.12.1.6)</i>		
<p>Roof, walls and floor of the class 10a part meet the same total R-Values required for the class 1 (house).</p>		
<p>Class 10a part is separated from the house by construction that meets the same total R-Values required for the house.</p>		
<p>Class 10a part has masonry walls, is separated from the house by a masonry wall that extends to ceiling or roof, and the roof meets the same total R-value required for the house, and does not have a garage door facing the east or west orientation other than if the Class 1 building glazing complies with 3.12.2.1 with the applicable value for C_{SHGC} in Table 3.12.2.1 reduced by 15%.</p>		
Part 3.12.2 EXTERNAL GLAZING		Yes
<p>All external glazing has been designed and will be installed in accordance with 3.12.2.1. A copy of the calculations (ABCB glazing calculator or equivalent) is attached, verifying compliance.</p>		
Part 3.12.3 BUILDING SEALING		N/A
<p><i>Not applicable to ventilation openings required for the safe operation of gas appliances, buildings that are conditioned only by an evaporative cooler, or buildings used for the accommodation of vehicles.</i></p>		
<p>The only means of air-conditioning is by evaporative cooling, therefore the building is not required to be sealed.</p>		
<p>All chimneys, flues and exhaust fans are fitted with dampers or flaps in accordance with 3.12.3.1</p>		
<p>All roof lights serving habitable rooms or conditioned spaces will be sealed in accordance with 3.12.3.2</p>		
<p>External windows and doors serving habitable rooms or conditioned spaces will be fitted with air infiltration seals in accordance with 3.12.3.3</p>		
<p>Exhaust fans serving habitable rooms or conditioned spaces will be sealed in accordance with 3.12.3.4</p>		

Compliance with BCA 3.12.0(a)(ii) Continued		N/A	Yes
Part 3.12.3 BUILDING SEALING Continued			
Roofs, walls and floors that form part of the external fabric of habitable rooms or conditioned spaces will be constructed to minimise air leakage in accordance with 3.12.3.5			
Evaporative coolers serving habitable rooms or heated spaces will be fitted with dampers in accordance with 3.12.3.6			
Part 3.12.4 AIR MOVEMENT			
Habitable rooms without ceiling fans have minimum ventilation openings of 10%			
Habitable rooms with ceiling fans have minimum ventilation openings of 7.5%			
Breeze paths are incorporated in accordance with 3.12.4.2			
All ceiling fans will be installed in accordance with 3.12.4.3			

Compliance with BCA 3.12.0(b)		
Part 3.12.5 SERVICES	N/A	Yes
3.12.5.0 - Hot water supply system(s) will be designed and installed in accordance with section 8 of AS/NZS 3500.4 or clause 3.38 of AS/NZS 3500.5		
Thermal insulation for central heating water piping and heating and cooling ductwork to be protected from weather and able to withstand temperature within piping or ductwork, in accordance with 3.12.5.1		
Central heating water piping that is not within a conditioned space will be insulated to achieve the minimum total R-values in accordance with Table 3.12.5.1		
Heating and cooling ductwork is designed and will be installed and insulated in accordance with 3.12.5.3		
Electrical resistance space heating is designed and will be installed in accordance with 3.12.5.4		
Artificial lighting is designed and will be installed in accordance with 3.12.5.5 – documentary evidence is attached.		
The water heater in the hot water supply system will comply with 3.12.5.6		
Heating for a swimming pool (other than a spa pool) will be by a solar heater not boosted by electric resistance heating and circulation pump in accordance with 3.12.5.7		
Heating for a spa pool that shares a water recirculation system with a swimming pool and circulation pump will be in accordance with 3.12.5.7		
Compliance with Western Australia Additions for Water Use <i>Only applies to houses using potable water supplied by a licensed operator</i>		
WA 2.3.1 Water Use Efficiency	N/A	Yes
All tap fittings (other than bath outlets and garden taps) will be a minimum 4-star WELS rated.		
All showerheads will be a minimum 3-star WELS rated.		
All sanitary flushing systems will be a minimum dual-flush, 4-stars WELS rated.		

Compliance with WA Additions for Water Use Continued	N/A	Yes
WA 2.3.2 Swimming Pool Covers and Blankets		
Any new outdoor swimming pool or spa will be supplied with a cover that reduces water evaporation and is accredited under the Smart Approved Watermark Scheme.		
WA 2.3.3 Hot Water Use Efficiency		
All internal hot water outlets will be connected to a hot water system or a re-circulating hot water system with pipes installed and insulated in accordance with AS/NZS 3500: Plumbing and Drainage, Part 4 Heated Water Services.		
The pipe from the hot water system or re-circulating hot water system to the furthest hot water outlet will be less than either 20 m in length or 2 litres of internal volume.		

BCA Energy and Water Efficiency Verification Declaration

I declare that the details provided on these verification sheets (and any supporting documentation accompanying them), are true and correctly reflect the plans and specifications of the proposed building that have been submitted for a building permit.

Name			
Company Name			
Address			
Phone Number		Fax	
Email Address			
Signature		Date	