



Certificate of Conformity

Certificate number: CM40312

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THIS IS TO CERTIFY THAT

Hebel® PowerPanel⁵⁰ High Rise Façade System

Type and/or use of product:

Hebel® PowerPanel⁵⁰ High Rise Façade Wall System is certified as a non-loadbearing external wall system to be used where deemed appropriate by state and territory specific applications using this system.

Description of product:

External High rise facade System, horizontally installed, comprising 50mm Aerated Autoclaved Concrete panels (AAC) horizontally fixed to steel stud or timber framing and other proprietary components, Refer A2 & A3 for full system components.

COMPLIES WITH THE FOLLOWING BCA PROVISIONS AND STATE OR TERRITORY VARIATION(S)

BCA 2022

	Volume One	Volume Two
Performance Requirement(s):	B1P1(2)(a)(b)(c)(d) Structural reliability	Not Applicable
	F3P1 Weatherproofing – Refer <i>Limitation and Condition 4</i>	
Deemed-to-Satisfy Provision(s):	C2D2(2) Fire resistance and Stability – Refer <i>Limitation and Condition 1</i>	Not Applicable
	C2D10 Non-combustible building elements – Refer A3 – Refer <i>Limitation and Condition 2</i>	
	C2D14 Ancillary Elements – Refer A3	
	F8D3 Condensation Management – Pliable building membrane	
	J4D6 Energy Efficiency – External walls. Can be used in conjunction with other building elements to achieve a Total R Value. Refer to A3	
State or territory variation(s):	Not Applicable	Not Applicable

SUBJECT TO THE FOLLOWING LIMITATIONS AND CONDITIONS AND THE PRODUCT TECHNICAL DATA IN APPENDIX A AND EVALUATION STATEMENTS IN APPENDIX B

Limitations and conditions:

Building classification/s:

Class 2,3,4,5,6,7,8 & 9


Richard Donarski - CMI


Don Grehan – Unrestricted Building Certifier

Date of issue: 29/08/2023

Date of expiry: 08/05/2026



Certificate of Conformity

1. Compliance with FRL is dependent on the system components being as specified in A3. Any deviation from the tested specimen does not form part of this certificate of conformity.
2. The non-combustibility requirements of C2D10 only apply where this system is installed using steel stud frames. Where timber stud frames are used, this system may only be installed where concession for timber framed construction apply, in the NCC.
3. The installation of the Hebel® PowerPanel⁵⁰ Horizontal Façade System on site must be in accordance with [CSR 50mm High Rise Façade Details Sheets PP50-H-F 001 – 019 Revision E dated 22/03/2021](#).
4. To satisfy F3P1 via verification, the relevant design is required to meet the criteria of F3V1 to the satisfaction of the Appropriate Authority as defined by the NCC. The site specific building must;
 - (a)(i) have a risk score of 20 or less, when the sum of all risk factor scores is determined in accordance with Table F3V1; and
 - (a)(ii) not be subjected to an ultimate limit state wind pressure of more than 2.5kPa; and
 - (a)(iii) include only windows that comply with AS 2047.Compliance with Weatherproofing is limited to the tested specimen detailed in A3, deviations from this specimen, is subject to site specific design and approval by the regulatory authority.
5. Hebel® PowerPanel⁵⁰ has not been tested and certified for impact loading from windborne debris in Regions C & D as denoted in AS 1170.2:2011. The building designer should take into consideration internal pressure resulting from dominant openings.
6. Components approved under this certificate are not part of the seismic-force resisting system.
7. Design certification for earthquake loading compliance in accordance with AS 1170.4:2007 excludes Meckering Regions and Island Regions
8. Compliance with Condensation Management Provisions requires the installation of pliable building membrane that complies with AS/NZS 4200.1:2017 and that is installed in accordance with AS 4200.2:2017 as detailed in the [CSR 50mm High Rise Façade Details Sheets PP50-H-F 001 – 019 Revision E dated 22/03/2021](#) to protect water sensitive framing materials as per the requirements of the F8D3 of the BCA.
9. The information included in the product literature that is not listed specifically is not considered part of the certification's scope. This certificate only covers the compliance elements, product description, purpose or use, and other listed information. It is important to note that the certified product/system can only be used within the limitations and conditions outlined in this certificate and in conjunction with the Scope of Certification provided below.

Scope of certification: The CodeMark Scheme is a building product certification scheme. The rules of the Scheme are available at the ABCB website www.abcb.gov.au. This Certificate of Conformity is to confirm that the relevant requirements of the Building Code of Australia (BCA) as claimed against have been met. The responsibility for the product performance and its fitness for the intended use remain with the Certificate Holder. The certification is not transferrable to a manufacturer not listed on Appendix A of this certificate.

Only criteria as identified within this Certificate of Conformity can be used for CodeMark certification claims. Where other claims are made in a client's Installation Manual, Website or other documents that are outside the criteria on this Certificate of Conformity, such criteria cannot be used or claimed to meet the requirements of this CodeMark certification.

The NCC defines a Performance Solution as one that complies with the Performance Requirements by means other than a Deemed-to-Satisfy Solution. A Building Solution that relies on a CodeMark Certificate of Conformity that certifies a product against the Performance Requirements cannot be considered as Deemed-to-Satisfy Solution.

This Certificate of Conformity may only relate to a part of a Performance Solution. In these circumstances other evidence of suitability is needed to demonstrate that the relevant Performance Requirements have been met. The relevant provisions of the Governing Requirements in Part A of the NCC will also need to be satisfied.

This Certificate of Conformity is issued based on the evidence of compliance as detailed herein. Any deviation from the specifications contained in this Certificate of Conformity is outside of this document's scope and the installation of the certified product will not be covered by this Certificate of Conformity.



Certificate of Conformity

Disclaimer: The Scheme Owner, Scheme Administrator and Scheme Accreditation Body do not make any representations, warranties or guarantees, and accept no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any material contained within this certificate; and the Scheme Owner, Scheme Administrator and Scheme Accreditation Body disclaim to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this certificate.

When using the CodeMark logo in relation to or on the product/system, the Certificate Holder makes a declaration of compliance with the Scope of Certification and confirms that the product is identical to the product certified herein. In issuing this Certificate of Conformity, CMI Certification Pty Ltd (CMI) has relied on the experience and expertise of external bodies (laboratories and technical experts).

Nothing in this document should be construed as a warranty or guarantee by CMI, and the only applicable warranties will be those provided by the Certificate Holder.

APPENDIX A – PRODUCT TECHNICAL DATA

A1 Type and intended use of product

As per page 1.

A2 Description of product

Hebel® PowerPanel⁵⁰ High Rise Façade System consists of the following components:

Product	Description																																																
Hebel PowerPanel⁵⁰ panel	The core component of Hebel® PowerPanel ⁵⁰ High Rise Façade System is the 50mm thick, steel mesh reinforced Hebel® PowerPanel ⁵⁰ . The panel is manufactured in a range of stock sizes as detailed below: <table border="1" data-bbox="398 608 1335 978"> <thead> <tr> <th>Product no.</th> <th>Length (mm)</th> <th>Width (mm)</th> <th>Thickness (mm)</th> </tr> </thead> <tbody> <tr><td>189329</td><td>2000</td><td>600</td><td>50</td></tr> <tr><td>100057</td><td>2200</td><td>600</td><td>50</td></tr> <tr><td>99939</td><td>2400</td><td>600</td><td>50</td></tr> <tr><td>133805</td><td>2550</td><td>600</td><td>50</td></tr> <tr><td>162758</td><td>2700</td><td>600</td><td>50</td></tr> <tr><td>162757</td><td>2800</td><td>600</td><td>50</td></tr> <tr><td>162756</td><td>2850</td><td>600</td><td>50</td></tr> <tr><td>162760</td><td>3000</td><td>600</td><td>50</td></tr> <tr><td>482684</td><td>2700</td><td>600</td><td>50</td></tr> <tr><td>482732</td><td>2850</td><td>600</td><td>50</td></tr> <tr><td>482683</td><td>3000</td><td>600</td><td>50</td></tr> </tbody> </table>	Product no.	Length (mm)	Width (mm)	Thickness (mm)	189329	2000	600	50	100057	2200	600	50	99939	2400	600	50	133805	2550	600	50	162758	2700	600	50	162757	2800	600	50	162756	2850	600	50	162760	3000	600	50	482684	2700	600	50	482732	2850	600	50	482683	3000	600	50
Product no.	Length (mm)	Width (mm)	Thickness (mm)																																														
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482683	3000	600	50																																														
Hebel®	The core component of the Hebel® PowerPanel ⁵⁰ High Rise Façade Wall System is an AAC panel external wall cladding element installed Horizontally on steel framed buildings or timber framed buildings.																																																
Top Hat	24mm Perforated Top Hats – 0.42mm thick Galvanised steel, F _y = 550MPa, Coating class AZ150 35mm Perforated Top Hats – 0.55mm thick Galvanised steel, F _y = 270MPa, Coating class Z275 20mm and 40mm Steel Cavity battens - 0.42 thick Galvanised steel 35mm x 20mm x (250mm or continuous) or 35mm x 40mm x (250mm or continuous) Rondo 310 - 0.55mm thick Galvanised steel, F _y = 270MPa, Coating class Z275																																																
Fasteners & Fixings	Temporary Fixings to fix steel battens to steel frame – 10-16 x 16mm Hex Head Tek Screw – Class 3. Temporary Fixings to fix steel battens to timber frame – 12-11 x 35mm Hex Head Type 17 Screw – Class 3. Screws to fix Hebel® PowerPanel ⁵⁰ through batten into steel frame – 14-10 x 100mm MP Bugle Head Type 17 – Class 3 Screw. Screws to fix Hebel® PowerPanel ⁵⁰ through batten into timber frame – 14-10 x 150mm HEX Head Type 17 – Class 3 Screw.																																																
Hebel® Adhesive	Hebel® Adhesive (supplied in 20kg bags) is used for gluing the Hebel® PowerPanel ⁵⁰ High Rise Façade Wall System panels together at vertical and horizontal joints.																																																
Hebel® Patch	Minor Chips or damage to Hebel® PowerPanel ⁵⁰ External Wall System panels are to be repaired using Hebel® Patch (supplied in 10kg bags).																																																
Hebel® Anti Corrosion Protection Paint	To coat reinforcement steel that has been exposed during cutting of the panels.																																																

A3 Product specifications

Fire – Non-Combustibility

System Component	Hidden Slab Edge	Exposed Slab Edge	Combustibility*
FRAMING SYSTEM			
RONDO 92 x 50 x 1.15mm BMT deflection head track	✓	✓	<u>Non-Combustible</u> Subject component is constructed out of light gauge steel.
RONDO 92 x 32 x 1.15mm BMT base track	✓	✓	
RONDO 92 x 32 x 1.15mm BMT lipped studs	✓	✓	
Cleats: Rondo MAXIframe cleats 201, 201	✓	✓	
Battens			
20mm Steel Cavity Batten	✓	✓	<u>Non-Combustible</u> Subject component is constructed out of light gauge steel.
40mm Steel Cavity Batten	✓	✓	
Rondo 310	✓	✓	
24 mm Perforated Steel Top Hat	✓	✓	
35 mm Perforated Steel Top Hat	✓	✓	
Wall system components			
Waterproof membrane	✓	✓	<u>Combustible</u> Complies with BCA Clause C2D10
Wall wraps	✓	✓	
Wall wrap tape	✓	✓	
Hebel Façade Top Hat 50 mm x 0.75 mm BMT	✓	✓	<u>Non-Combustible</u> Subject component is constructed out of light gauge steel
10-16mm x 16 hex head Top Hat fastener	✓	✓	
Shelf angle 150mm x 100mm x 3mm x 6mm	✓		
M12 Hilti HVU galvanised chemical anchors at 900mm centres	✓		
M10 Hilti HVU galvanised chemical anchors at 450mm centres.	✓		
Galvanised mechanical anchors at 600mm centres: Hilti HSA-F M10 (to fix shelf angle to slab edge)	✓		
Non-compressible non-combustible packers	✓	✓	<u>Non-Combustible</u> Complies with BCA Clause C2D10
Backing Rod	✓	✓	
Selleys Fireblock XT	✓	✓	
Hebel® PowerPanel ⁵⁰	✓	✓	<u>Non-Combustible</u> Subject component is constructed out of Autoclaved Aerated Concrete.
Hebel® Anti-Corrosion Protection Paint	✓	✓	<u>Combustibility unknown</u> Complies with BCA Clause C2D14

Hebel® Adhesive	✓	✓	<u>Non-Combustible</u> Subject component is constructed out of Portland cement, fine sand aggregate and calcium carbonate filler.
14-10mm x 100 bugle head timber screw PowerPanel fastener	✓	✓	<u>Non-Combustible</u> Subject component is constructed out of galvanised steel
Screw: 14-10 x 100 bugle head type 17 OR	✓	✓	
Screw: 14-10 x 90 hex head type 17	✓	✓	
Pressure equalization slots	✓	✓	
Hebel® Patch	✓	✓	<u>Non-Combustible</u> Subject component is constructed out of Portland cement, Calcium Sulfoaluminate cement and calcium carbonate filler.
Flashing / DPC - not supplied by CSR	✓	✓	<u>Combustible</u> Complies with BCA Clause C2D10
Gyprock plasterboard	✓	✓	
Bradford insulation	✓	✓	
COATING SYSTEM			
Dulux AcraTex AcraLite	✓	✓	<u>Combustibility unknown</u> Complies with BCA Clause C2D10 and C2D14
Dulux AcraTex AcraPatch High Build	✓	✓	
Dulux AcraTex Green Render Sealer	✓	✓	
Dulux AcraTex AcraSkin	✓	✓	
HEBEL POWERPROFILE®			
Aluminium profiles and end caps	✓	✓	<u>Non-combustible</u> The subject component is constructed out of aluminium.
Universal backing clip (without tape)	✓	✓	
3M VHB Tape GPH 110 (1.1 mm thick)	✓	✓	<u>Combustible</u> Complies with BCA Clause C2D14
Screw: 6G 1-3/4" (44 mm) Stainless Steel	✓	✓	<u>Non-combustible</u> The subject component is constructed out of stainless steel.

Fire Resistance Levels

The assessment is limited to the term of validity of the BCA 2022 Volume One, as appropriate.

System 4 is only to be used as external walls in buildings required by Clause C2D2 to comprise Type C construction.

Systems 1-3 achieve a two-way FRL of at least -/60/60, and as such are considered to achieve the required FRL for use as spandrel protection as required by BCA Clause C3D7, assuming that the spandrel performs no load-bearing function.

System	Internal Plasterboard Lining	Assessed in Report Section	Relevant Test Reports	Assessed FRL
1	2 x 16mm CSR Fyrchek	Section 5	FSP 1841 & EWA 2406400.1	FRL -/120/120 (two-way)
2	1 x 16mm CSR Fyrchek	Section 6	WFRA 2114100.1	FRL -/60/60 (two-way)
3	2 x 13mm CSR Fyrchek	Section 7	EWFA 2406400	FRL -/90/90 (two-way)
4	1 x 10mm Gyprock Standard Plasterboard	Section 8	FSP 1841	FRL -/120/120 (from outside only)

System 1 The façade wall systems variations:

1. The Hebel® PowerPanel⁵⁰ shall be fixed to top hats from outside of the building by 14-10 x 100mm MP Bugle Head Type 17 screws.
2. Top Hats/Battens in galvanised steel are to be provided in nominal widths of 20mm, 24mm, 35mm or 40mm and be designed and constructed in accordance with AS 3623:1993 and/or AS/NZS 4600:2018.
3. Structural steel stud frame must be designed in accordance with AS 3623:1993 and/or AS/NZS 4600:2018.
4. Steel stud frame must be designed to limit the lateral deflection to H/360 under serviceability wind pressures in accordance with AS 1170.2:2011 as per CSR Hebel® drawing PP50-H-F-002.
5. The AAC panels must not bear any structural load other than the weight of other AAC panels stacked above them.
6. The Hebel® PowerPanel⁵⁰ are to be laid horizontally and not vertically as tested within FSP 1841.
7. Two layers of 16mm CSR Fyrchek is to be provided as internal wall lining of the façade system in combination with the Hebel® PowerPanel⁵⁰ as an external lining to the façade.
8. The Hebel® PowerPanel⁵⁰ shall be either supported on the concrete slab or on a continuous steel shelf angle fixed to the face of the concrete slab as per CSR Hebel® drawing PP50-H-F-001.
9. Hebel® adhesive is to be used at vertical and horizontal joints.
10. The Hebel® PowerPanel⁵⁰ are to be interlocked in a stretcher bond arrangement.
11. Non-compressible packers may be used between the steel battens and steel studs to align the Hebel® PowerPanel⁵⁰.
12. The maximum stud spacing is 600mm centres three (3) screws to be used per panel per stud. Where 3 screws are required for 600mm wide panels per stud a continuous batten is to be used.
13. Selleys Fire Block XT may alternatively be applied behind the top of the steel angle provided all bolt holes are also sealed with Fire Block XT in accordance with manufacturer's specifications.
14. A weep hole may be present within the Hebel® PowerPanel⁵⁰ to allow the wall cavity to experience the same pressure as that acting on the outside wall.
15. Maximum spacing of control joints is to be limited to 6m as per CSR Hebel® drawing PP50-H-F-006.

System 2 Vary System 1 described above by substituting the internal plasterboard layers (System 1 Item 7) with a single layer of 16 mm Fyrchek plasterboard.

System 3 Vary System 1 described above by substituting the internal plasterboard layers (System 1 Item 7) with two layers of 13 mm Fyrchek plasterboard.

System 4 Vary System 1 described above by substituting the internal plasterboard layers (System 1 Item 7) with a single layer of 10 mm standard plasterboard.

Source: SGA Fire; Rep. 115620-FAR5-r1; Determination of FRL by Calculation; Dated 01/12/2022.

System Component and Conditions	For Achieving the Following FRL's:			
	System 1 FRL -/120/120 (two-way)	System 2 FRL -/60/60 (two-way)	System 3 FRL -/90/90 (two-way)	System 4 FRL -/120/120 (from outside only)
Hebel® PowerPanel⁵⁰				
Hebel® PowerPanel ⁵⁰ constitutes the external leaf to the façade.	Yes	Yes	Yes	Yes
Hebel® PowerPanel ⁵⁰ dimensions: 2000mm x 600mm x 50mm.	Yes	Yes	Yes	Yes
Panels laid horizontally and not vertically as tested within FSP 1841.	Yes	Yes	Yes	Yes
Hebel® PowerPanel ⁵⁰ are to be interlocked in a stretcher bond arrangement	Yes	Yes	Yes	Yes
Hebel® PowerPanel ⁵⁰ fixed to top hats from outside of the building by 14-10 x 100mm MP Bugle Head Type 17 screws.	Yes	Yes	Yes	Yes
Panels must not bear any structural load other than the weight of other AAC panels stacked above them.	Yes	Yes	Yes	Yes
Hebel® adhesive is to be used at vertical and horizontal joints.	Yes	Yes	Yes	Yes
Panels shall be either supported on the concrete slab or on a continuous steel shelf angle fixed to the face of the concrete slab as per CSR Hebel® drawing PP50-H-F-001	Yes	Yes	Yes	Yes
A weep hole may be present within the Hebel® PowerPanel ⁵⁰ to allow the wall cavity to experience the same pressure as that acting on the outside wall.	Yes	Yes	Yes	Yes
Maximum spacing of control joints is to be limited to 6 m as per CSR Hebel® drawing PP50-H-F-006	Yes	Yes	Yes	Yes
Structural Steel Stud Frame				
Designed to AS 3623:1993 and/or AS/NZS 4600:2018	Yes	Yes	Yes	Yes
Designed to limit the lateral deflection to H/360 under serviceability, wind pressures to AS 1170.2:2011 as per CSR Hebel® drawing PP50-H-F-002.	Yes	Yes	Yes	Yes
Maximum stud spacing is 600mm centres. Three (3) screws to be used per panel per stud. Where 3 screws are required for 600mm wide panels per stud a continuous batten is to be used.	Yes	Yes	Yes	Yes
Selleys Fire Block XT may alternatively be applied behind the top of the steel angle, provided that all bolt holes are also sealed with Fire Block XT in accordance with manufacturer's specifications.	Yes	Yes	Yes	Yes
Steel Top Hats				
Top Hats in galvanised steel are to be provided in nominal widths of 20mm, 24mm, 35mm or 40mm and be designed and constructed in accordance with AS 3623:1993 and AS/NZS 4600:2018.	Yes	Yes	Yes	Yes
Plasterboard Internal Wall Lining				
Two layers of 16mm CSR Fyrchek as internal wall lining of the façade system	Yes	Yes	Yes	Yes
One layer of 16mm CSR Fyrchek as internal wall lining of the façade system	No	Yes	Yes	Yes
Two layers of 13mm CSR Fyrchek as internal wall lining of the façade system	No	No	Yes	Yes
One layer of 10mm CSR Gyprock plasterboard internal wall lining of the façade system	No	No	No	Yes
Packers				
Non-compressible packers may be used between the steel battens and steel studs to align the Hebel® PowerPanel ⁵⁰ .	Yes	Yes	Yes	Yes

Source: SGA Fire; Rep. 115620-FAR5-r1; Determination of FRL by Calculation; Dated 01/12/2022.

Variations to linings and framing

Frame	Orientation of panel	Interior Lining	Direction of Fire	FRL
Timber or Steel	Horizontal fixed to frame*	Standard grade plasterboard	Outside Only	-/60/60 or 60/60/60
Timber	Horizontal fixed to frame*	1 x 16mm Fyrchek	Inside and Outside	-/60/60 or 60/60/60
Steel	Horizontal fixed to frame*	1 x 13mm or 1 x 16mm Fyrchek	Inside and Outside	-/60/60 or 60/60/60
Timber or Steel	Horizontal fixed to frame*	Standard grade plasterboard	Outside Only	-/90/90 or 90/90/90
Timber or Steel	Horizontal fixed to frame*	2 x 13mm or 1 x 16mm Fyrchek	Inside and Outside	-/90/90 or 90/90/90

*Installation requirements as per A5 of this Certificate of Conformity.

Note: Stud Spacings at 450mm or 600mm centres dependent on applied loading including wind

Source: *IGNIS Solutions Pty Ltd; Report No. IGNL-7109 I01 R01 Hebel Wall Compliance dated 18/05/2023.*

Weatherproofing

- Their design/installation is in accordance with AS 5146.3, provided sarking or Cemintel's rigid air barrier is provided onto the stud supporting frame.
- The Hebel® dual zero boundary wall system, and designs excluding weep holes, shall be limited to low rise building only. That is, building classed 1 and 10, and 2-9 of type C construction.
- The Hebel® dual zero boundary wall system without surface coating must only be used where it is either:
 - infeasible for a surface coating to be applied (in accordance with the requirements for external walls) due to its proximity with the neighbouring building; and/or
 - infeasible to install a flashing from the adjoining building to prevent the uncoated boundary wall from being subject to exterior moisture.
- Where the sarking is not detailed as an air barrier, the listed systems incorporating Bradford Enviroseal CW sarking, installed in accordance with AS 4200.2:2017, ensuring to seal all laps, edges and penetrations as per the test specimen in test report DTF 1023, and as reflected within the listed technical manuals.

Note: Other Bradford sarking products detailed as per the tested system are also acceptable, provided they are classified as a water barrier in accordance with AS 4200.1:2017, and have equivalent or better strength properties (tensile strength, edge tear resistance, burst strength determined in accordance with AS 4200.1:2017) to Bradford Enviroseal CW. Bradford RW is acceptable, but for low rise application only - that is, building classes 1, and 2-9 of type C construction.

Subject to the following:

- In Class 1 and 10 buildings, and Class 2 to 9 buildings, appropriate for applied serviceability wind pressures not exceeding +1.19/-1.79 kPa, provided that the ultimate design wind pressure does not exceed 2.5 kPa as required by BCA 2022 F3V1, H2V1.
 - Stud and vertical support batten spacings not exceeding 600 mm and no less than 225 mm.
 - In accordance with the limitations outlined in BCA 2022 F3V1 and H2V1, appropriate to external walls which:
 - have a risk score of 20 or less, when the sum of all risk factor scores are determined in accordance with BCA 2022 F3V1a or H2V1a, as appropriate; and
 - are not subjected to an ultimate limit state wind pressure of more than 2.5 kPa; and
 - includes only windows that comply with AS 2047.
- Incorporating Cemintel's Rigid Air Barrier system in lieu of sarking, up to a serviceability limit state wind pressure of + 2.5 kPa. Note: as the system was tested to AS/NZS 4284:2008, the limitations of the NCC's verification method do not apply.

6. Where Bradford Enviroseal CW-IT soft air barrier system is used in lieu of the Cemintel Rigid Air Barrier, it remains structurally adequate up to an ultimate limit state wind pressure of +/- 2.5 kPa, provided that:
- Stud spacings don't exceed 600 mm and no less than 225 mm.
 - Aluminium strip (min 20 mm x 1.6 mm) shall continuously restrain the sarking's perimeter edges, including vertical laps, screw fixed at max 100 mm as per the configuration in reports MT470-19 and MT476-19 (see Appendix details).
 - Screw fixings restraining the sarking shall be applied to each stud, with a maximum vertical spacing in accordance with the following table (table 7). Screw fixings between top-hat/batten fixing points shall incorporate Bradford Bradfix Plasti-grip washers or have an equivalent broad head/washer of at least 45 mm diameter. Screw fixings shall be within 200 mm of the top and base of the wall and shall be fixed through horizontal laps. Screw fixings restraining the sarking attached to timber or steel studs shall be self-drilling and minimum 8 g. Screws into timber studs shall have minimum 25 mm embedment.

Stud Spacing (mm)	Maximum Bradford Plasti-Grip Washer Spacing (mm)							
	Ultimate Design Wind Pressure (kPa)							
	0.5	1.0	1.25	1.5	1.75	2.0	2.25	2.5
225	300	300	300	300	300	300	300	300
300	300	300	300	300	300	300	300	300
400	300	300	300	300	300	250	250	200
450	300	300	300	300	250	250	200	200
600	300	300	300	250	200	150	150	150

Note:

- If a project's ultimate design wind pressure is between two table 7 values, the fixing requirements for the higher tabulated wind pressure shall govern.
 - See the Appendix for installation details for the Bradford Enviroseal CW-IT soft air barrier system.
 - AS 4200.2:2017 clause 3.8 notes that for cavity applications, fixings restraining sarking shall be in accordance with the manufacturer's instructions. The fixing requirements above for restraining the Bradford Enviroseal CW-IT shall therefore govern for the Hebel External Wall Systems incorporating the Bradford Enviroseal CW-IT soft air barrier system.
7. The above conclusions also apply to horizontally installed panels documented in HELIT181 and PP50-H-F001-0019.
8. Where vertically orientated Hebel panels are supported from a horizontal top-hat connected to the support system, and fire rated plasterboard or a rigid air barrier is used to line the exterior side of the framing, measures shall be taken to ensure cavity ventilation and drainage.

Source: Xavier Knight; Report No. 220912; Weatherproofing assessment Hebel External Wall Systems incorporating sarking or RAB to NCC 2022; Dated 02/05/2023.

Thermal Properties – Hebel Horizontally Installed Façade Wall System incorporating Hebel® PowerPanel⁵⁰ (dry density 510kg/m³) on Steel Frame

Description of Specimen	Insul Path		All Wall (bridged)			
	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W
	Winter	Summer	Winter	Summer	Winter	Summer
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and steel studs at 600mm centres (13mm Gyprock Plasterboard)	R3.55	R3.35	R2.70	R2.59	U0.370	U0.386
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and steel studs at 450mm centres (13mm Gyprock Plasterboard)	R3.55	R3.35	R2.51	R2.42	U0.399	U0.414
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and steel studs at 600mm centres (1x16mm Fyrchek Plasterboard)	R3.57	R3.37	R2.74	R2.63	U0.365	U0.381
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and steel studs at 450mm centres (1x16mm Fyrchek Plasterboard)	R3.57	R3.37	R2.54	R2.45	U0.396	U0.408
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and steel studs at 600mm centres (2x13mm Fyrchek Plasterboard)	R3.63	R3.42	R2.86	R2.74	U0.350	U0.365
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and steel studs at 450mm centres (2x13mm Fyrchek Plasterboard)	R3.63	R3.42	R2.67	R2.57	U0.375	U0.389
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and steel studs at 600mm centres (2x16mm Fyrchek Plasterboard)	R3.66	R3.46	R2.92	R2.80	U0.343	U0.358
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and steel studs at 450mm centres (2x16mm Fyrchek Plasterboard)	R3.66	R3.46	R2.74	R2.63	U0.366	U0.380
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.5 HP and 20mm steel batten and steel studs at 600mm centres (13mm Gyprock Plasterboard)	R3.35	R3.15	R2.60	R2.48	U0.385	U0.403
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.5 HP and 20mm steel batten and steel studs at 450mm centres (13mm Gyprock Plasterboard)	R3.35	R3.15	R2.42	R2.32	U0.414	U0.431
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.5 HP and 20mm steel batten and steel studs at 600mm centres (1x16mm Fyrchek Plasterboard)	R3.37	R3.16	R2.63	R2.51	U0.380	U0.398
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.5 HP and 20mm steel batten and steel studs at 450mm centres (1x16mm Fyrchek Plasterboard)	R3.37	R3.16	R2.45	R2.35	U0.408	U0.425
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.5 HP and 20mm steel batten and steel studs at 600mm centres (2x13mm Fyrchek Plasterboard)	R3.43	R3.22	R2.74	R2.62	U0.365	U0.382
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.5 HP and 20mm steel batten and steel studs at 450mm centres (2x13mm Fyrchek Plasterboard)	R3.43	R3.22	R2.57	R2.46	U0.389	U0.406
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.5 HP and 20mm steel batten and steel studs at 600mm centres (2x16mm Fyrchek Plasterboard)	R3.46	R3.25	R2.80	R2.67	U0.357	U0.374
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.5 HP and 20mm steel batten and steel studs at 450mm centres (2x16mm Fyrchek Plasterboard)	R3.46	R3.25	R2.64	R2.52	U0.379	U0.396

Notes: The above table gives Total R & Total U values for the thermally bridged whole wall surface (no glazing). The All Wall (bridged) results do not have any thermal break product present, and metal battens are fixed direct onto metal studs, but not noggins. Assumes thermal resistance of Hebel® PowerPanel⁵⁰ (dry density 510kg/m³) is R0.313 m²·K/W for 4.0% M.C.. R-values calculated per AS/NZS 4859 Parts 1&2:2018, Thermal insulation materials for buildings (This update includes revised framing details to reduce thermal bridging).

Source: James M Fricker; Report No. i107g; Determination of R values by calculation in accordance with AS/NZS 4859 Parts 1&2:2018; Dated 21/06/2019.

Thermal Properties – Hebel Horizontally Installed Façade Wall System incorporating Hebel® PowerPanel⁵⁰ (dry density 510kg/m³) on Timber Frame

Description of Specimen	Insul Path		All Wall (bridged)	
	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W
	Winter	Summer	Winter	Summer
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.7 HP, and 90x45mm timber studs at 600mm centres (13mm Gyprock Plasterboard)	R3.54	R3.35	R2.98	R2.86
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.7 HP, and 90x45mm timber studs at 450mm centres (13mm Gyprock Plasterboard)	R3.54	R3.35	R2.89	R2.79
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.7 HP, and 90x45mm timber studs at 600mm centres (1x16mm Fyrchek Plasterboard)	R3.56	R3.37	R3.00	R2.88
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.7 HP, and 90x45mm timber studs at 450mm centres (1x16mm Fyrchek Plasterboard)	R3.56	R3.37	R2.91	R2.80
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.7 HP, and 90x45mm timber studs at 600mm centres (2x13mm Fyrchek Plasterboard)	R3.62	R3.43	R3.07	R2.95
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.7 HP, and 90x45mm timber studs at 450mm centres (2x13mm Fyrchek Plasterboard)	R3.62	R3.43	R2.99	R2.87
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.7 HP, and 90x45mm timber studs at 600mm centres (2x16mm Fyrchek Plasterboard)	R3.66	R3.46	R3.11	R2.99
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.7 HP, and 90x45mm timber studs at 450mm centres (2x16mm Fyrchek Plasterboard)	R3.66	R3.46	R3.03	R2.91
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.5 HP, and 90x45mm timber studs at 600mm centres (13mm Gyprock Plasterboard)	R3.35	R3.15	R2.86	R2.73
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.5 HP, and 90x45mm timber studs at 450mm centres (13mm Gyprock Plasterboard)	R3.35	R3.15	R2.78	R2.67
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.5 HP, and 90x45mm timber studs at 600mm centres (1x16mm Fyrchek Plasterboard)	R3.37	R3.17	R2.88	R2.75
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.5 HP, and 90x45mm timber studs at 450mm centres (1x16mm Fyrchek Plasterboard)	R3.37	R3.17	R2.80	R2.69
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.5 HP, and 90x45mm timber studs at 600mm centres (2x13mm Fyrchek Plasterboard)	R3.43	R3.22	R2.95	R2.82
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.5 HP, and 90x45mm timber studs at 450mm centres (2x13mm Fyrchek Plasterboard)	R3.43	R3.22	R2.87	R2.75
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.5 HP, and 90x45mm timber studs at 600mm centres (2x16mm Fyrchek Plasterboard)	R3.46	R3.26	R2.99	R2.85
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with 20mm steel batten and Bradford Gold Wall Batt R2.5 HP, and 90x45mm timber studs at 450mm centres (2x16mm Fyrchek Plasterboard)	R3.46	R3.26	R2.91	R2.79

Notes: The above table gives Total R values for the insulation path & for the thermally bridged path for the whole wall surface (no glazing). The All Wall (bridged) results do not have any thermal break product present, and metal battens are fixed direct onto timber studs. Assumes thermal resistance of Hebel® PowerPanel⁵⁰ (dry density 510kg/m³) is R0.313 m²·K/W for 4.0% M.C.. R-values calculated per AS/NZS 4859 Parts 1&2:2018, Thermal insulation materials for buildings, 27/11/2020 (This update includes revised framing details to reduce thermal bridging).

Source: James M Fricker; Report No. i107g; Determination of R values by calculation in accordance with AS/NZS 4859 Parts 1&2:2018; Dated 27/11/2020.

Thermal Properties - Hebel Horizontally Installed Façade Wall System incorporating Hebel® PowerPanel⁵⁰ (dry density 510kg/m³) on Steel Frame

Description of Specimen	Insul Path		All Wall			
	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W
	Winter	Summer	Winter	Summer	Winter	Summer
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and steel studs at 600mm centres (13mm Gyprock Plasterboard) - (reflective wrap)	R4.04	R3.86	R3.15	R3.04	U0.318	U0.328
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and steel studs at 450mm centres (1x16mm Fyrchek Plasterboard) - (reflective wrap)	R4.06	R3.88	R2.97	R2.88	U0.337	U0.347
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and steel studs at 450mm centres (2x13mm Fyrchek Plasterboard) - (reflective wrap)	R4.12	R3.93	R3.09	R2.99	U0.324	U0.334
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and steel studs at 450mm centres (2x16mm Fyrchek Plasterboard) - (reflective wrap)	R4.15	R3.97	R3.15	R3.05	U0.318	U0.328

Notes: The above table gives Total R & Total U values for the thermally bridged whole wall surface (no glazing). The All Wall (bridged) results do not have any thermal break product present, and metal battens are fixed direct onto metal studs, but not noggins. Assumes thermal resistance of Hebel® PowerPanel⁵⁰ (dry density 510kg/m³) is R0.313 m²·K/W for 4.0% M.C.. R-values calculated per AS/NZS 4859 Parts 1&2:2018, Thermal insulation materials for buildings (This update includes revised framing details to reduce thermal bridging).

Source: James M Fricker; Report No. i107g; Determination of R values by calculation in accordance with AS/NZS 4859 Parts 1&2:2018; Dated 11/03/2020.

Thermal Properties – Hebel Horizontally Installed Façade Wall System incorporating Hebel® PowerPanel⁵⁰ (dry density 510kg/m³) on Timber Frame

Description of Specimen	Insul Path		All Wall			
	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W	Total R, m ² ·K/W
	Winter	Summer	Winter	Summer	Winter	Summer
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and 90x45mm timber studs at 600mm centres (13mm Gyprock Plasterboard) - (reflective wrap)	R4.04	R3.86	R3.30	R3.20	U0.303	U0.313
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and 90x45mm timber studs at 450mm centres (1x16mm Fyrchek Plasterboard) - (reflective wrap)	R4.05	R3.88	R3.21	R3.12	U0.311	U0.320
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and 90x45mm studs at 450mm centres (2x13mm Fyrchek Plasterboard) - (reflective wrap)	R4.11	R3.94	R3.29	R3.19	U0.304	U0.313
Hebel® PowerPanel ⁵⁰ (4% M.C.) system with Bradford Gold Wall Batt R2.7 HP and 20mm steel batten and 90x45mm studs at 450mm centres (2x16mm Fyrchek Plasterboard) - (reflective wrap)	R4.15	R3.97	R3.33	R3.24	U0.300	U0.309

Notes: The above table gives Total R & Total U values for the thermally bridged whole wall surface (no glazing). The All Wall (bridged) results do not have any thermal break product present, and metal battens are fixed direct onto timber studs, but not noggins. Assumes thermal resistance of Hebel® PowerPanel⁵⁰ (dry density 510kg/m³) is R0.313 m²·K/W for 4.0% M.C.. R-values calculated per AS/NZS 4859 Parts 1&2:2018, Thermal insulation materials for buildings (This update includes revised framing details to reduce thermal bridging).

Source: James M Fricker; Report No. i107g; Determination of R values by calculation in accordance with AS/NZS 4859 Parts 1&2:2018; Dated 27/11/2020.

A4 Manufacturer and manufacturing plant(s)

This field is optional. Contact Certificate Holder for details.

A5 Installation requirements

The installation of the certified System must be in accordance with [CSR 50mm High Rise Façade Details Sheets PP50-H-F 001 – 019 Revision E dated 22/03/2021](#).

A6 Other relevant technical data

Acoustic

Note: all penetrations and junctions shall be acoustically sealed

System	Wall Structure	R _w	C _{tr}	R _w + C _{tr}
1	<ul style="list-style-type: none"> Air seal and Dulux coating system Hebel® PowerPanel⁵⁰ (510Kg/m³ dry density) 20mm steel batten (minimum) 92mm steel stud frame filled with 90mm thick Bradford Gold Wall Batts insulation One layer of 13mm Gyprock Standard Plasterboard 	49	-14	35
2	<ul style="list-style-type: none"> Air seal and Dulux coating system Hebel® PowerPanel⁵⁰ (510Kg/m³ dry density) 20mm steel batten (minimum) 92mm steel stud frame filled with 90mm thick Bradford Gold Wall Batts insulation One layer of 16mm Fyrchek Plasterboard 	50	-13	37
3	<ul style="list-style-type: none"> Air seal and Dulux coating system Hebel® PowerPanel⁵⁰ (510Kg/m³ dry density) 20mm steel batten (minimum) 92mm steel stud frame filled with 90mm thick Bradford Gold Wall Batts insulation Two layers of 13mm Fyrchek Plasterboard 	52	-9	43
4	<ul style="list-style-type: none"> Air seal and Dulux coating system Hebel® PowerPanel⁵⁰ (510Kg/m³ dry density) 20mm steel batten (minimum) 92mm steel stud frame filled with 90mm thick Bradford Gold Wall Batts insulation Two layers of 16mm Fyrchek Plasterboard 	53	-9	44

Source: Acoustic Logic; Report No. A-20171728.16/2605A/R2/GW; Dated 26/05/2020.

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

1. Condensation Management Provisions A5G3(1)(e). The Façade System Installation Drawings provides product technical data.
2. Fire Safety Provisions A5G3(1)(d)&(e). A report issued by an Accredited Testing Laboratory and a report from a professional engineer or other appropriately qualified person.
3. Structural Provisions A5G3(1)(e). A certificate or report from a professional engineer or other appropriately qualified person.
4. Thermal Provisions A5G3(1)(e). A certificate or report from a professional engineer or other appropriately qualified person.
5. Weatherproofing Provision A5G3(1)(e). A certificate or report from a professional engineer or other appropriately qualified person.

B2 Reports

1. Xavier Knight; Report No. 220912; Weatherproofing assessment Hebel External Wall Systems incorporating sarking or RAB to NCC 2022; Dated 02/05/2023, This report contributes towards the performance requirements of F3P1.
2. CSIRO; NATA Accreditation 165: Report number DTF1021; Water penetration testing to the Verification Methods FV1 & V2.2.1; Dated 27/01/2015 This report contributes towards the performance requirements of F3P1.
3. CSIRO; NATA Accreditation FNC12427A; Certificate of Test for Combustibility Test for Materials in accordance with AS 1530.1:1994; Dated 24/07/2019, This report confirms the Hebel AAC is not deemed combustible in accordance with AS 1530.1 & C2D10.
4. CSR; PP50-H-F 001-0019 Revision E - 50mm Hebel PowerPanel High Rise Façade System Installation Drawings; Verifies compliance with Condensation Management; Dated 22/03/2021, This report confirms compliance with F8D3.
5. IGNIS Solutions Pty Ltd; Report No. IGNL-7109 I01 R01; Hebel External Wall Compliance; Dated 18/05/2023, This report contributes towards compliance with C2D10(2).
6. James M Fricker; Report No. i107g; Determination of R values by calculation in accordance with AS/NZS 4859.1:2018; Dated 11/03/2020, These calculations confirm compliance with J4D6.
7. James M Fricker; Report No. i107g; Determination of R values by calculation in accordance with AS/NZS 4859.1:2018; Dated 21/06/2019, These calculations confirm compliance with J4D6.
8. James M Fricker; Report No. 107G; Overall "Total R" (Thermally Bridged) Thermal Performance Calculations to AS/NZS 4859 Parts 1 & 2:2018; Dated 27/11/2020, These calculations confirm compliance with J4D6.
9. PACE Structural; File PS19068; Structural Design Capacity Calculations; Dated 16/08/2023, These calculations contribute to the structural compliance with B1P1.
10. PACE Structural; Structural Design Certificate; Dated 15/08/2023, These calculations contribute to the structural compliance with B1P1.
11. Jensen Hughes Pty Ltd; Rep. 113337-FSE1-r2; Hebel high-rise façade wall system; Dated 15/12/2022, This report contributes towards compliance with C2D10(2).
12. SGA Fire; Rep. 115620-FAR5-r1; Determination of FRL by Calculation; Dated 01/12/2022, This report contributes towards compliance with C2D10(2).
13. The Coatings Consultancy; Reference No. TCC18056-20230518; NCC Non-Combustibility Requirements for External Coatings of Hebel High Rise Facade Systems-Testing and Classification; Dated 18/05/2023, This report confirms the compliance with C2D10.

The Certificate Holder has chosen not to make the above evidence of compliance publicly available, due to the documents being considered commercial in confidence.