

Certificate no: CM20222

Version: 01

Original issue date: 18 November 2020

Version date: 21 December 2023

Product Certificate

CSR Building Product (NZ) Limited CSR Hebel® INTERTENANCY WALL SYSTEM

1. Certificate Holder Details



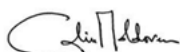
CSR Building Product (NZ) Limited
14 The Furlong, Takanini, Auckland
PO BOX 188, Takanini, Auckland 2245
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Phone: 0800 443 235
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2. Product Certification Body



SAI Global Certification Services Pty Limited
(ACN 108 716 669) Trading as "SAI Global" Operating
as "Intertek & Intertek SAI Global" Address: 650
Lorimer Street Port, Melbourne, VIC, 3207 Australia
www.saiglobal.com

Complaints: The complaints process for this
certificate can be found here:
<https://saassurance.com.au/complaints-appeals/>



Calin Moldovean
President, Business Assurance
SAI Global Assurance

3. Description of Building Method or Product

CSR Hebel® Intertenancy Wall System comprises of:

- A central single layer of PowerPanel⁵⁰ or PowerPanel^{XL} Hebel steel reinforced Autoclaved Aerated Concrete (AAC) panels, and
- Single stud timber or /steel framing walls built on both sides of the AAC panels with a minimum gap of 10mm between the framing and the AAC panel, including 90mm cavity insulation on both sides and lined with 10mm minimum thickness plasterboard.

PowerPanel^{XL} is 75mm thick and PowerPanel⁵⁰ is 50mm thick. The panels have square edges and are manufactured in a range of stock sizes.

Matters that should be taken into account in the use or application of the building method or product can be found in item 6. Conditions and Limitations of Use. Continuation of description can be found in item 10 – Supporting Information about Description.

4. Intended use of Building Method or Product

CSR Hebel® Intertenancy Wall System is a lightweight loadbearing or non-loadbearing wall construction system suitable for use in low rise residential buildings.

Continuation of intended use can be found in item 11 – Supporting Information about Intended use.

5. New Zealand Building Code Provisions

Clause B1 Structure — B1.3.1; B1.3.2; B1.3.3(a, f, i, j, m, q); B1.3.4

Clause B2 Durability — B2.3.1(a); B2.3.2

Clause C3 Fire affecting areas beyond the fire source — C3.4(a); C3.6 (contributes to)

Clause C6 Structural stability — C6.2 (contributes to); C6.4

Clause F2 Hazardous building materials — F2.3.1

Clause G6 Airborne and impact sound — G6.3.1

How the building method or product complies or contributes can be found in item 8. Basis for Certification.

Any qualifications on the extent of that compliance can be found in item 6. Conditions and limitations of use.



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6. Conditions and Limitations of Use

- a) The product is to be designed and installed in accordance with Low Rise Multi Residential 75mm PowerPanel^{XL} & 50mm PowerPanel⁵⁰ Intertency Walls – DESIGN AND INSTALLATION GUIDE - NEW ZEALAND - HELIT187 – June 19.
- b) The design and installation of timber and steel stud loadbearing wall frames are not covered by this certification and must comply with NZ 3604:2011 for timber framing and NASH Standard Part 2:2019 Light Steel Framed Buildings.
- c) For use in Importance Level 1 & Importance Level 2 buildings as defined in NZS 3604:2011 (Table 1.1), up to and including three storeys high and situated in wind zones up to and including Extra High as determined in NZS 3604:2011.
- d) The overall wall height limit is 12.0m for the PowerPanel^{XL} Intertency Wall System and 10.0m for PowerPanel⁵⁰ Intertency Wall System.
- e) The Plasterboard used can be either Winstone Wallboards GIB® standard (minimum 10mm thick plasterboard) or CSR GYPROCK® Plus (minimum 10mm thick plasterboard).
- f) The wall System cavity insulation must be constructed only with 90mm Bradford insulation with minimum R1.8 both sides (or equivalent insulation with minimum density of 8.4kg/m³) and in accordance with the DESIGN AND INSTALLATION GUIDE. The table in section 11 below provides specific STC numbers for different combinations of plasterboard and separation gap.
- g) For PowerPanel^{XL} with plasterboard lining on both sides of the AAC centre panels, a Fire Resistance Rating (FRR) of 90/90/90 is achieved only for a maximum total wall height of 12.0m. Refer to the DESIGN AND INSTALLATION GUIDE for wall system details.
- h) For PowerPanel⁵⁰ with plasterboard lining on both sides of the AAC centre panels, a Fire Resistance Rating (FRR) of 90/90/90 is achieved only for a maximum total wall height of 7.2m. The FRR of the wall system is reduced to 60/60/60 for a maximum total wall height of up to 10.0m. Refer to the DESIGN AND INSTALLATION GUIDE for wall system details.
- i) Compliance with NZBC B1-Structure is subject to the following conditions:
 - o CSR® Hebel Intertency Wall System has been designed to comply with the load requirements of AS/NZS 1170, (excluding Amendment 1 September 2016 for AS/NZS 1170.5) when using either the Hebel 75mm or 50mm thick panels.
 - o Based on 75mm thick Hebel PowerPanel^{XL} panels with an equilibrium density of 440kg/m³ and 50mm thick Hebel PowerPanel⁵⁰ with an equilibrium density of 565kg/m³.
 - o Limited to buildings no greater than 12.0m in height for 75mm PowerPanel^{XL} and not greater than 10.0m in height for 50mm PowerPanel⁵⁰.
 - o Applicable to all seismic zones within New Zealand and soil classification types listed in AS/NZS1170.
 - o Maximum vertical distance between the panel fixings is limited to 2.933m for a maximum panel length of 3.0m.
 - o The building designers must take into account the seismic mass of the Hebel Intertency Wall panels when designing the bracing of the main building structure. This may be achieved by assuming the Intertency Wall to be the equivalent of a wall with medium weight cladding if using NZS 3604:2011 based design methods, or by specific engineering calculation.
 - o The building designer must design each building between intertenancy walls as stand-alone separate buildings with respect to the bracing design for each building.

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- The out of plane and in plane seismic loading is transferred to the building via aluminium angles with screwed connections. The Hebel Intertenancy Wall panels span between the fixing points at floor levels.
- j) Other components as part of the system not manufactured by Hebel must also be installed in accordance with the manufacturers standard and specifications.
- k) Where the Hebel intertenancy wall is installed in buildings where there is a step in the roofline such that the intertenancy wall between adjacent tenancies extends beyond the roof line on one side and becomes an external exposed face, and where the building is within exposure zone D and microclimates as defined in NZS 3604:2011, compliance with B2 Durability is subject to the external surface of the Hebel AAC panels being protected by a suitable acrylic coating system.
- l) CSR® Hebel Intertenancy Wall System is not suitable for use as an external wall.
- m) The AAC centre panels are not to bear any structural load other than the weight of other AAC panels stacked above them.

NOTE: Together, items 3,4,5 and 6 define scope of use

Reference Documents:

- Low Rise Multi Residential 75mm PowerPanel^{XL} & 50mm PowerPanel⁵⁰ Intertenancy Walls – DESIGN AND INSTALLATION GUIDE - NEW ZEALAND - HELIT187 – June 19.

7. Health and Safety Information

Hebel products are cement-based, which may irritate the skin, resulting in itching and occasionally a red rash. The wearing of gloves and suitable clothing to reduce abrasion and irritation of the skin is recommended when handling Hebel product. Refer to the Hebel Material Safety Data Sheets and the Design and Installation Guide for further information regarding health and safety.

- CSR Safety Data Sheet – Autoclaved Aerated Concrete (for NZ) – LWS-SDS-189 (Date Issued: 23/08/2016).

8. Basis for Certification

- **B1 Structure** – by testing and comparison with provisions of Verification Method B1/VM1 and Acceptable Solution B1/AS1 – AS 5146.2:2018 – due to its acceptance within the Building Code of Australia (BCA), the material standard AS 5146.2:2018 is therefore an acceptable Alternate Solution under the NZBC.
- **B2 Durability** – by testing and comparison with provisions of Verification Method B2/AS1 clause 3.1.1 – Section 3 of NZS 3101.1:2006 (+A1-3). Definitions of environmental conditions in NZS 3101.1&2:2006 (+A1-3) have been derived from the general concepts followed by AS 3600:2009 – due to its acceptance within the NZS 3101.1&2:2006 (+A1-3), the AS 3600:2018 exposure classifications are therefore an acceptable Alternate Solution under the NZBC.
- **C3 Fire affecting areas beyond the fire source** – by testing and comparison with the provisions of Acceptable Solution C/AS1.



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- **C6 Structural stability (Fire)** – by testing and comparison with the provisions of Verification Method C/VM2.
- **F2 Hazardous building materials** – by analysis and comparison with the Performance Requirements of F2.3.1.
- **G6 Airborne and impact sound** – by testing and comparison with the provisions of Verification Method G6/VM1.

9. Supporting Documentation for Certification

Acceptable Solutions and Verification Methods for New Zealand Building Code:

- **Clause B1 Structure** – B1/VM1, B1/AS1, 1st edition Amendment 21 (2 November 2023).
- **Clause B2 Durability** – B2/AS1, 2nd edition Amendment 12 (28 November 2019).
- **Clause C3 Fire affecting areas beyond the source** – C/AS1 Acceptable Solution for Buildings with Sleeping (residential) and Outbuildings (Risk Group SH), 2nd edition (2 November 2023) and C/AS2 Acceptable Solution for Buildings other than Risk Group SH For New Zealand Building Code Clauses C1-C6 Protection from Fire, Amendment 3 (2 November 2023).
- **Clause C6 Structural stability** – C/AS1 Acceptable Solution for Buildings with Sleeping (residential) and Outbuildings (Risk Group SH), 2nd edition (2 November 2023) and C/AS2 Acceptable Solution for Buildings other than Risk Group SH For New Zealand Building Code Clauses C1-C6 Protection from Fire, Amendment 3 (2 November 2023).
- **Clause G6 Airborne and impact sound** – G6/VM1, 1st edition Amendment 2 (1 December 1995).

Test Reports

- BEMAC Laboratories – CSR Hebel Pty Ltd AAC – 50mm thick panels 600 x 3000mm Evaluation of Properties of 50mm AAC Product, Job No. 10953 (dated 19/04/2017)**
This report provides the results of testing of the Hebel Residential Inter-Tenancy to AS 5146.2 Reinforced Autoclaved Aerated Concrete – Part 2: Design.
- KCL Engineering Services – Structural Design Statement for Hebel Residential Inter-Tenancy Wall System (dated 3rd July 2020)**
This report provides an assessment for the performance of the Hebel Residential Inter-Tenancy Wall System under seismic loading for New Zealand applications within the restrictions outlined above in item 6. Conditions and Limitations of Use.
- Mahaffey Associates Pty Ltd – Durability Review: AS3600:2009 Exposure Classifications – Hebel Panels (dated 30 July 2013)**
This report states that the assessment should be based on untreated Hebel panels, used in above-ground exterior environments, in application such as road barriers and building facades.
- BRANZ, Test Report for Group Number and Average Specific Extinction Area (ASEA), Report No. FH 4540 (dated 4 February 2011).**



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The report provides the results of testing Winstone Wallboards GIB® standard (10mm thick plasterboard) as a ceiling lining product when tested to ISO 5660.1 and returns a material Group Number 1 and Average Specific Extinction Area (ASEA) of 49.8m²/kg.

- E. Warringtonfire, Assessment Report for Group Number and Average Smoke Production Rate, Report No. 45759 Revision 10.1 (dated 15 November 2019).**

This report documents the findings of the assessment undertaken to determine the likely reaction to fire of CSR GYPROCK® (minimum 10mm thick plasterboard) for wall and ceiling lining products when tested in accordance with AS ISO 9705:2003 (R2016) and concludes a material classification Group Number 1-S and Average Smoke Production Rate 0.16m²/s.

- F. CSIRO, Fire resistance of CSR Hebel load-bearing vertical separating element, Report No. FSV 1828 Revision B (dated 19 May 2017).**
This report provides the results of testing of the Hebel Residential Inter-Tenancy to AS 1530.4:2014 - Methods for fire tests on building materials, components and structures - Part 4: Fire-resistance test of elements of construction, referenced in Acceptable Solution C/AS1.

- G. CSIRO, Fire resistance of CSR Hebel PowerPanel⁵⁰ Intertenancy wall system - Aluminium Brackets, Report No. FCO-3255 Revision E (dated 26 May 2020).**

This report provides the results of testing of the Hebel Residential Inter-Tenancy to AS 1530.4:2014 - Methods for fire tests on building materials, components and structures - Part 4: Fire-resistance test of elements of construction, referenced in Acceptable Solution C/AS1.

- H. CSR Safety Data Sheet – Autoclaved Aerated Concrete (for NZ) – LWS-SDS-189 (Date Issued: 23/08/2016)**

- I. Acoustic Logic, Proposed Hebel Intertenancy Wall System for NZ – Acoustic Assessment, Report No. 20171728.18/0511A/R3/AW (dated 24/02/2020).**

This report provides the results of testing Hebel PowerPanel^{XL} and PowerPanel⁵⁰ Intertenancy Wall Systems and details the predicted performance rating for cavity insulation with wall lining on both sides of the wall to achieve an STC > 55.

10. Supporting Information About Description

The core component of CSR Hebel® Intertenancy Wall System is an autoclaved aerated concrete (AAC) containing steel reinforcement with an anti-corrosion layer on the steel for maximum durability.

The panel is manufactured in a range of stock sizes as shown below.



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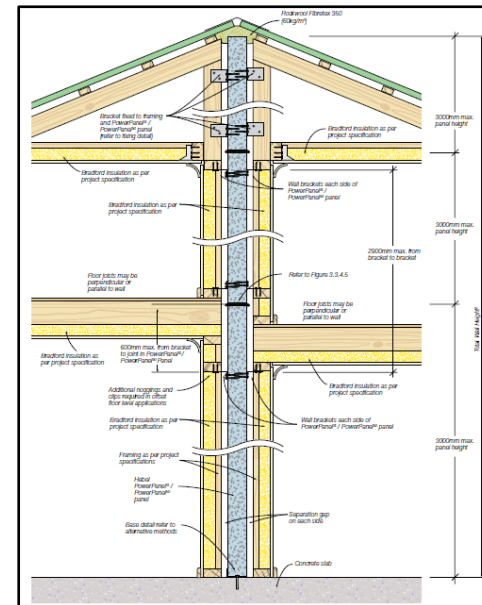
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Panel weight (kg)			
Length (mm)	Width (mm)	Weight (kg) at 35% M.C. for PowerPanel ⁵⁰	Weight (kg) at 35% M.C. for PowerPanel ^{XL}
2200	600	45	NA
2400	600	50	58
2550	600	53	62
2700	600	56	66
3000	600	62	73

NOTE: Average panel weight calculated at 35% moisture content.

The below wall configuration consists of Hebel (non-load bearing) PowerPanel^{XL} / PowerPanel⁵⁰ panels installed vertically and secured to the structural loadbearing frame. The system utilises an aluminium bracket system which provides the wall with a discontinuous construction for acoustic performance.



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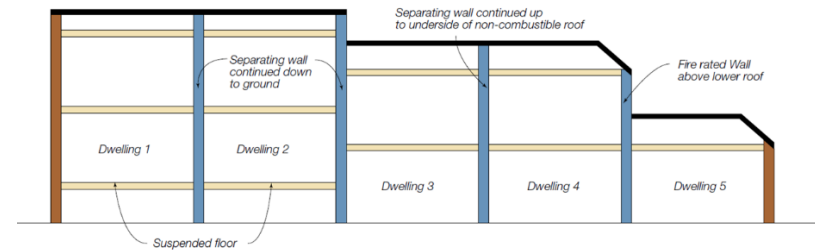
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11. Supporting Information About Intended Use

Hebel PowerPanel^{XL} / PowerPanel⁵⁰ Intertency Wall System is intended for use as loadbearing and non-loadbearing intertenancy / party walls in low rise multi-residential projects.



Where the internal fire separation wall extends beyond the roof line on one side only and becomes an external wall, contact Hebel Technical Services for advice on PowerPanel^{XL} and PowerPanel⁵⁰ external wall solutions.

Winstone Wallboards GIB® standard (10mm thick plasterboard) when tested to ISO 5660.1 achieved Group Number 1 and Average Specific Extinction Area (ASEA) of 49.8m²/kg as determined in accordance with Appendix A of C/VM2. CSR GYPROCK® (minimum 10mm thick plasterboard) achieved Group Number 1-S and Average Smoke Production Rate 0.16m²/s when tested to AS ISO 9705:2013 (R2016) as determined in accordance with C/VM2.

12. Supporting Information About Conditions and Limitations of Use

All conditions and limitations are as stated above in item 6 Conditions and Limitations of Use and below information:

Hebel intertenancy wall system using PowerPanel ^{XL} (dry density 400 kg/m ³)					
Cavity Insulation	Wall Lining Both Sides	STC		R _w /R _w +C _v	
		Separation Gap			
		10mm	20mm	10mm	20mm
90mm Bradford Insulation min R1.8 – both sides (or equivalent insulation with min. density of 8.4kg/m ³)	1 x 10mm plasterboard (lining mass min. 5.7 kg/m ²)	59	60	60/50	61/51
90mm Bradford Insulation min R1.8 – both sides (or equivalent insulation with min. density of 8.4kg/m ³)	1 x 13mm plasterboard (lining mass min. 8.5 kg/m ²)	64	64	65/50	65/51
90mm Bradford Insulation min R1.8 – both sides (or equivalent insulation with min. density of 8.4kg/m ³)	2 x 10mm plasterboard (lining mass min. 5.7 kg/m ²)	64	64	65/52	65/53
90mm Bradford Insulation min R1.8 – both sides (or equivalent insulation with min. density of 8.4kg/m ³)	2 x 13mm plasterboard (lining mass min. 8.5 kg/m ²)	65	65	66/56	66/57

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Hebel Intertenancy wall system using PowerPanel ⁵⁰ (dry density 510 kg/m ³)					
Cavity Insulation	Wall Lining Both Sides	STC		R _w /R _e +C _v	
		Separation Gap			
		10mm	20mm	10mm	20mm
90mm Bradford Insulation min R1.8 – both sides (or equivalent insulation with min. density of 8.4kg/m ³)	1 x 10mm plasterboard (lining mass min. 5.7 kg/m ²)	58	59	59/50	60/51
90mm Bradford Insulation min R1.8 – both sides (or equivalent insulation with min. density of 8.4kg/m ³)	1 x 13mm plasterboard (lining mass min. 8.5 kg/m ²)	63	63	64/50	64/51
90mm Bradford Insulation min R1.8 – both sides (or equivalent insulation with min. density of 8.4kg/m ³)	2 x 10mm plasterboard (lining mass min. 5.7 kg/m ²)	63	63	64/52	64/53
90mm Bradford Insulation min R1.8 – both sides (or equivalent insulation with min. density of 8.4kg/m ³)	2 x 13mm plasterboard (lining mass min. 8.5 kg/m ²)	64	64	65/56	65/57

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