

Hebel PowerBlock+

Refer to product table below for applicable product codes covered by this document

Issue

8 Dec 2023

Product Type & Application

Hebel PowerBlock+ is a solid autoclaved aerated concrete (AAC) block with face dimensions 600 mm x 200 mm and thicknesses from 50 mm to 300 mm. External walls are typically constructed using 200mm or 250mm thick Hebel PowerBlock+ whilst internal block walls generally use 100mm or 150mm PowerBlock+. Required block thickness will vary depending on the length, height, restraint, fire resistance and loadbearing requirements of the wall design.

Hebel autoclaved aerated concrete (AAC) is a remarkable building material replicating a mineral that already exists in nature. It's made from readily available raw materials such as sand, cement, lime and gypsum, which are combined with water and an expansion agent. The result is a high-quality product with a cellular structure that allows water vapour to flow in and out efficiently.

Hebel PowerBlock+ is designed for use as external or internal walls for buildings:

- specifically engineered design in accordance with B1/VM1 and referenced standards NZS1170 and NZS 4230
- Located anywhere with respect to a relevant boundary
- Located in any exposure zone (except adverse microclimate conditions) as defined in NZS3604:2011 (para 4.2.4)
- Located in any climate zone (as defined in H1/AS1)

Compliance with the New Zealand Building Code

When correctly specified and installed, this product meets or contributes to compliance with the following performance requirements of the building code:

B1 Structure B1.3.1, B1.3.2, B1.3.3 (b, e, f, h, i, j, m, q), B1.3. Hebel PowerBlock+ complies with Verification Method B1/VM1 through specific engineering design.

B2 Durability B2.3.1 (a), B2.3.2(a) –

PowerBlock+ is completely inorganic and unaffected by borer or fungi. is unaffected by UV exposure.

C3 Fire affecting areas beyond the fire source C3.4(a); C3.5; C3.6 (contributes to); C3.7– PowerBlock+ is non-combustible. The fire resistance rating of Hebel PowerBlock+ has been established by CSIRO to from 60/60/60 to 240/240/240 depending on the block thickness. It has a Material Group number of 1-S when exposed as an internal wall.

E2 External Moisture E2.3.2, E2.3.5, E2.3.7 - Hebel PowerBlock+ relies on the non-combustible coating system to prevent water penetration through the AAC panel material, which is porous. The systems specified incorporate a pure acrylic high performance elastomeric coating. The systems are at least equivalent to complying with CCANZ CP01:2014 Code of Practice for Weathertight Concrete and Concrete Masonry Construction referenced as an Acceptable Solution E2/AS3.

E3 Internal moisture E3.3.1 (contributes to) – Hebel PowerBlock+ exceeds the minimum R-value of R0.6 required by Acceptable Solution E3/AS1 (para 1.1.1) for single skin normal weight masonry-based wall construction without a cavity.

F2 Hazardous building materials F2.3.1 - Hebel PowerBlock+ does not contain any substance that will give rise to harmful concentrations at the surface of the material where the material is exposed or in the atmosphere of any space. AAC does not contain asbestos.

H1 Energy Efficiency H1.3.1; H1.3.2E (contributes to) – 250 mm Hebel PowerBlock+ has a R-value of 1.48 m².K/W and contributes to the total thermal resistance of walls .

Basis of Compliance

- Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B1 Structure First edition (Amendment 21), 2 November 2023

This Product Technical Statement is published in accordance with the Building Act 2004 Section 14g. It relates to this product when it is produced at a CSR approved facility in accordance with CSR Specifications and approved materials, is unmodified, and installed in accordance with the technical data, plans, specifications, and advice prescribed by the manufacturer. It relates to the provisions of the building code in effect at the date of issue of this Product Technical Statement.



Hebel PowerBlock+

- Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B2 Durability Second edition (Amendment 12), 28 November 2019
- C/VM1 Verification Method for Solid Fuel Appliances C/AS1 Acceptable Solution for Buildings with Sleeping (residential) and Outbuildings (Risk Group SH) For New Zealand Building Code Clauses C1-C6 Protection from Fire (2nd Edition), 2 November 2023
- C/AS2 Acceptable Solution for Buildings other than Risk Group SH for New Zealand Building Code Clauses C1-C6 Protection from Fire First edition (Amendment 3), 2 November 2023
- Verification Methods E2/VM1 and Acceptable Solutions E2/AS1, E2/AS2 and E2/AS3 for New Zealand Building Code Clause E2 External Moisture Third edition (Amendment 10), 5 November 2020
- Acceptable Solutions and Verification Methods for New Zealand Building Code Clause E3 Internal Moisture Second edition (Amendment 7), 5 November 2020
- H1 Energy Efficiency, Acceptable Solution H1/AS1, Energy efficiency for all housing, and buildings up to 300 m², Fifth edition Amendment 1, 4 August 2022
- H1 Energy Efficiency, Acceptable Solution H1/AS2, Energy efficiency for buildings greater than 300 m², First edition Amendment 1, 4 August 2022
- H1 Energy Efficiency, Verification Method H1/VM1, Energy efficiency for all housing, and buildings up to 300 m², Fifth edition Amendment 1, 4 August 2022
- H1 Energy Efficiency, Verification Method H1/VM2, Energy efficiency for all housing, and buildings greater than 300 m², First edition Amendment 1, 4 August 2022
- CSR Hebel Technical Manual January 2006
- CSIRO Assessment Report Number: FCO-3432, Fire resistance of various CSR Hebel blocks in accordance with AS 1530.4-2014, 31 August 2021
- CSIRO Assessment Report Number: FCO-3440, Reaction to fire performance of Hebel AAC panels and blocks when tested to AS/NZS 1530.3-1999, 25 October 2021
- Safety Data Sheet Hebel Autoclaved Aerated Concrete, Ref No: CSR0001701, Ver 1.2 Issued: 2022-02-08

Find out more on hebel.co.nz or email info@hebel.co.nz or call 0800 4 HEBEL (0800 443 235)
Hebel NZ, 14 The Furlong, Takanini, Auckland

Hebel NZ is a business division of CSR Building Products (NZ) Limited (NZBN 9429040750194)

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Document Reference: Hebel PowerBlock R1.0 Issued 20231208t.docx

Conditions of Storage, Use & Maintenance

- All materials must be kept dry and preferably stored undercover.
- Hebel® PowerBlocks should be left on their pallet until they are required. Place the pallet on a level and stable surface.
- The project engineer should be consulted as to the adequacy of the structure to support Hebel® PowerBlocks if they are not stored directly on the ground or concrete slab.

Refer to the product warranty at hebel.co.nz for more information.

Limitations of Use

- This product is not subject to any warning or ban declared by MBIE under section 26 of the Building Act 2004.
- **Seek technical advice from CSR Hebel on application suitability if unsure.**

Specific Design or Installation Instructions

- Hebel PowerBlock+ should be designed and installed in accordance with the relevant New Zealand Masonry Building Code. Hebel PowerBlock+ walls should be specified by the project building engineer. For further technical details contact CSR technical services.
- AAC block structures require specific engineering design undertaken by a suitably qualified structural engineer.
- Specification of control joint requirements & locations in Hebel AAC block structures must be assessed and verified by the structural engineer with consideration to the information within the Technical Manual and to the relevant masonry block Standards and Codes of Practice, specifically with reference to seismic design.
- For documentation to support compliance of these systems with the NZ Building Code please contact Hebel NZ on 0800 4 HEBEL (0800 443 235).
- Installers should refer to the Hebel SDS and <https://hebel.co.nz/working-safely-hebel/> for information about working safely with Hebel.

Hebel PowerBlock+

For general installation guidance refer to the product literature at www.hebel.co.nz

Applicable Product Codes (SKU)

SKU	Description	Dimensions
474900	PowerBlock+	600 mm x 200 mm x 50 mm
474901	PowerBlock+	600 mm x 200 mm x 75 mm
474902	PowerBlock+	600 mm x 200 mm x 100 mm
475070	PowerBlock+	600 mm x 400 mm x 100 mm
474903	PowerBlock+	600 mm x 200 mm x 125 mm
74904	PowerBlock+	600 mm x 200 mm x 150 mm
74905	PowerBlock+	600 mm x 200 mm x 200 mm
74906	PowerBlock+	600 mm x 200 mm x 250 mm
74907	PowerBlock+	600 mm x 200 mm x 300 mm
21949	Hebel Patch	10 kg bag
21933	Hebel Adhesive	20 kg bag

Visit Hebel.co.nz for more details on accessories.

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