

# Hebel - Better for building in bushfire zones



The better way to build

## BUILDING WITH HEBEL® IN BUSHFIRE ZONES

Bushfires are a fact of Australian life. When building in a bushfire zone, the most important consideration is the choice of building materials. Hebel is the top choice when building your home in a bushfire zone. All Hebel products have exceptional fire properties and meet or exceed the requirements for all six Bushfire Attack Level (BAL) categories, making it the better choice for building in a bushfire prone area.



Ecologie Group

### HEBEL AAC (AUTOCLAVED CONCRETE)

Hebel AAC is a solid masonry product that is versatile enough to be used for external and internal walls, floors, decks and fencing. All products are non-combustible and won't explode, even under extreme heat. Providing solid construction, Hebel delivers the right balance between thermal insulation and mass-making it a better choice for building in a bushfire prone area.

Over the past 20 years, Hebel has developed a full range of solid and lightweight framed building systems with high resistance, offering assurance and added security for homeowners of bushfire prone properties.



Cover: Solar Solutions Design

Solar Solutions Design



## HEBEL POWERPANEL<sup>XL</sup>

Hebel PowerPanel<sup>XL</sup> external wall system has been specifically developed to provide a secure solid masonry facade that goes up fast.

The system consists of 75mm thick, steel-reinforced PowerPanel<sup>XL</sup> panels, fixed vertically to steel horizontal top hats attached to the load-bearing timber or steel frame.

Hebel PowerPanel<sup>XL</sup> combined with the perforated steel top hat and hex head fixing system, speeds up the installation process.

It is ideal for houses and low-rise multi-residential applications, including extensions and re-cladding of existing homes. Hebel PowerPanel<sup>XL</sup> is easy to install on two-storey dwellings.

You'll love the rendered finish, clean architectural lines and design flexibility of Hebel. With Hebel you'll achieve the extra comfort of a masonry home that's better to live in and a sustainable choice compared to bricks.

PowerPanel<sup>XL</sup> is non-combustible system with an FRL of 180/180/180 and is termite resistant.

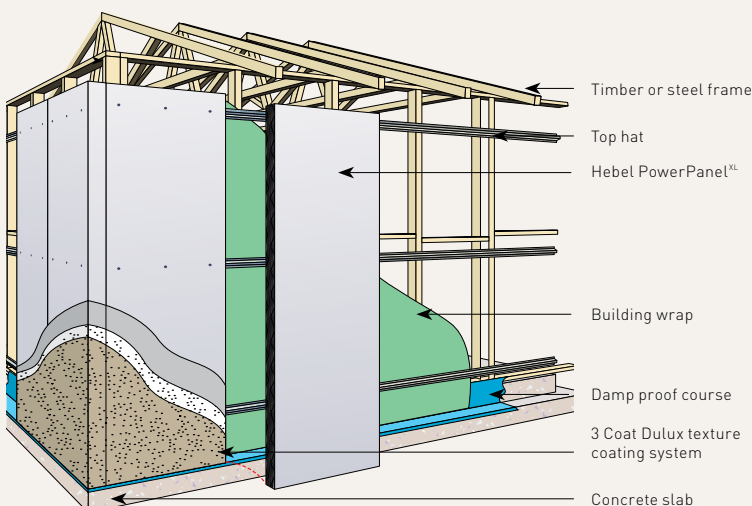
## HEBEL POWERBLOCK<sup>+</sup>

Solid masonry construction has long been regarded as the 'ultimate' home building method. Hebel PowerBlock<sup>+</sup> is the ideal alternative to double brick, providing an extremely solid construction with an amazing Fire Resistance Level (FRL) of 240/240/240 as well as exceptional acoustic and thermal insulation properties.

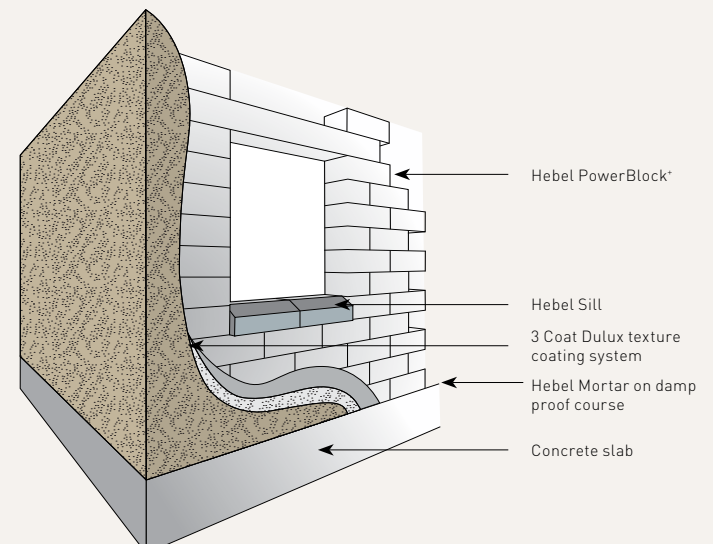
The face size of a PowerBlock<sup>+</sup> is 600mm x 200mm. External walls are typically constructed using 250mm thick Hebel PowerBlock<sup>+</sup> whilst internal non-loadbearing walls generally use the 100mm PowerBlock<sup>+</sup>. The large format blocks are lightweight and, forming a single wall, are rapidly installed. A Hebel PowerBlock<sup>+</sup> home is an incredibly comfortable living environment.

PowerBlock<sup>+</sup> together with Hebel PowerFloor<sup>+</sup> for suspended floors comply with the requirements for all six BAL zones when constructed in accordance with Hebel's Design and Installation guides.

### Hebel framed construction



### Hebel solid construction



## HEBEL POWERFLOOR

PowerFloor is a highly versatile solid platform flooring system that gives you the feel of a concrete floor at a significantly lower cost. PowerFloor is an ideal choice for first floor and suspended ground floors, as well as decks and balconies. Installed over conventional joists, the system of 75mm thick steel reinforced tongue and groove PowerFloor panels fit snugly together to form a strong, smooth floor.

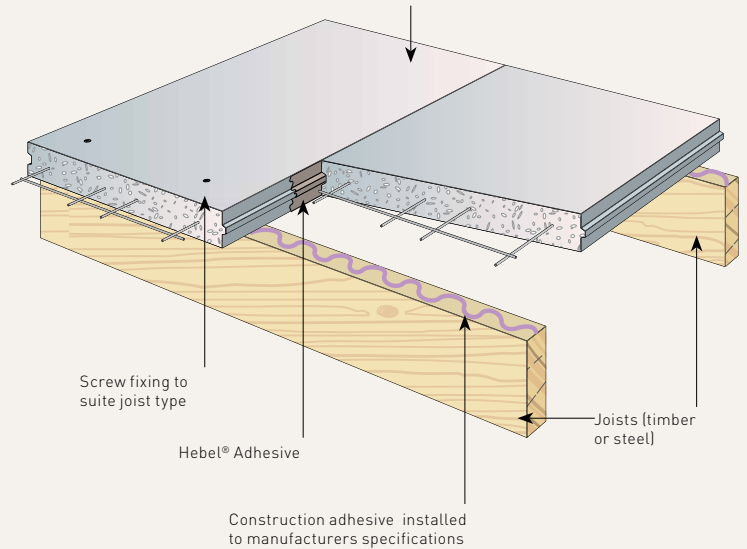
It is simple and fast to install with less mess than pouring concrete and has a superior solid feel compared to particleboard and timber flooring.

Hebel PowerFloor is the creak free solid alternative to particle board, reducing sound transmission between floors and eliminates the squeaking, bouncing and noise often associated with timber flooring substrates. It is easily installed by on-site trades, such as carpenters, so there are no delays to the building schedule.

The PowerFloor system is non-combustible and has proven fire resistant levels up to 90 minutes from above.

Hebel PowerFloor can be covered in a range of floor coverings. Decks must be tiled.

**Note:** Please refer to the Houses, Low-rise, Multi-residential and Commercial Floors Design and Installation Guide for floor covering details.



## BUSHFIRE ZONE REQUIREMENTS

Australian Standard AS3959-2009, Construction of buildings in bushfire-prone areas was introduced in 2009 to improve the resistance of buildings to bushfire attack from burning embers, radiant heat, flame contact and combinations of the three attack forms. The standard includes a methodology for assessing categories of bushfire attack, called Bushfire Attack Levels (BAL), in respect of a site situated in an area that has been designated by a relevant authority as bushfire-prone. A building surveyor will use the BAL to check compliance with the construction requirements of the standard. All building approvals issued in designated bushfire prone zones MUST build to BAL 12.5 standards as a minimum, even if the site specific BAL assessment is LOW. If it is above BAL 12.5 then the building must be treated in line with the specific BAL range that it falls into, as per AS3959:2009.

### Definition of BAL Levels

Bushfire Attack Level (BAL)	Description of predicted Bushfire Attack and levels of exposure
BAL- Low	There is not sufficient risk to warrant exposure
BAL-12.5	Ember attack
BAL- 19	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux between 12.5 and 19kW m <sup>2</sup>
BAL-29	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux between 19 and 29kW m <sup>2</sup>
BAL- 40	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux with the increased likelihood of exposure to flames
BAL-FZ	Direct exposure to flames from fire front in addition to heat flux and ember attack

### Hebel systems for each BAL Level

	Hebel System	BAL-Low	BAL-12.5	BAL-19	BAL-29	BAL-40	BAL-FZ
External Walls	PowerBlock+	✓	✓	✓	✓	✓	✓
	PowerPanel <sup>XL</sup>	✓	✓	✓	✓	✓	✓
Floors	PowerFloor+	✓	✓	✓	✓	✓	✓
	PowerFloor	✓	✓	✓	✓	✓	✓
Subfloor Supports	PowerBlock+	✓	✓	✓	✓	✓	✓
Verandahs, decks	PowerFloor+	✓	✓	✓	✓	✓	✓
	PowerFloor	✓	✓	✓	✓	✓	✓



“HEBEL IS OUR GO TO PRODUCT FOR BUSHFIRE ZONES. IT ALLOWS US TO DESIGN WITH FREEDOM KNOWING IT HAS ALL THE PROPERTIES WE NEED TO KEEP THE HOME AND OUR CLIENTS SAFE AND PROTECTED”

Darren Evans, Director, Solar Solutions Design



## OTHER BUILDING ELEMENTS

Non-combustible Hebel blocks and panels are ideal for a range of other building applications on bushfire prone properties.

### Subfloor supports

Hebel Blocks and PowerPanel<sup>XL</sup> panels also satisfy the requirements for the enclosure of subfloor areas for all BAL levels. This will protect raised flooring from a bushfire threat below.

### Verandahs, decks and external stairs

Both Hebel PowerFloor and PowerFloor+ provide a solid alternative for external decks and verandahs. If stairs are required, Hebel Blocks are an ideal choice. While both materials satisfy all BAL requirements, careful consideration should be given to the complete construction design.

### Fencing

Hebel PowerFence is an extremely attractive and versatile modular fence system that provides an efficient and effective privacy and noise barrier for

residential applications. Featuring non-combustible panels and steel posts PowerFence is perfect for boundary fencing and low front walls in bushfire prone areas. Hebel PowerFence can be finished in either Exposed or Monolithic and can also be adapted to include a range of different decorative treatments such as ironwork.

## HEBEL FINISHING SYSTEMS

Hebel has worked closely with leading coatings manufacturers such as Dulux<sup>®</sup> to develop a range of finishing options for all Hebel systems. From simple acrylic coatings to high build renders and textures, Hebel has a system that will meet the aesthetic requirements for your project.

For full details on surface preparation and finishing systems see the Hebel High Performance Coatings brochure which is available from our website [www.hebel.com.au](http://www.hebel.com.au)

## DESIGNED FOR A BETTER ENVIRONMENT

Environmentally friendly, Hebel products and systems are the sustainable choice. Independent testing shows that overall, Hebel has a 30% lower environmental impact than concrete or brick veneer.

Using over 60% less embodied energy, and producing at least 55% less greenhouse emissions than concrete or brick veneer, Hebel is the cleaner, greener choice.

Hebel products are non-toxic and don't emit any gases, another reason why they are an increasingly popular choice for people concerned with building a healthy, environmentally responsible home or building.



Solar Solutions Design

An innovative, sustainable and proven building product, Hebel has impressive benefits:



### SOLID AND STRONG

Hebel PowerBlocks and steel reinforced PowerPanels provide the solid feel, security and peace-of-mind associated with traditional bricks. In fact, independent tests show that a rendered Hebel wall has similar impact resistance to brick. The steel reinforced Hebel internal panels also add strength and security between rooms compared to plasterboard systems.



### FIRE RESISTANT

Hebel is renowned for its fire resistant properties. A non-combustible material, Hebel block and panel systems achieve Fire Resistance Levels (FRLs) from 60 minutes through to 240 minutes (tested at CSIRO) and meet or exceed the requirements for all six Bushfire Attack Level (BAL) categories. When building with Hebel, you're building with peace-of-mind that your home is safe and secure.



### COMFORTABLE LIVING ENVIRONMENT

Hebel panels have superior insulation qualities compared to other masonry products. With better thermal resistance and thermal mass, Hebel is a smart choice for meeting Australia's stringent building regulations. And, for homeowners, it means there is less reliance on heaters or air conditioners – helping to save money and being kinder to the environment, too.



### SUSTAINABILITY FOR A BETTER WORLD

Environmentally friendly, Hebel products and systems are the sustainable choice. Independent testing shows that overall Hebel has a 30% lower environmental impact than concrete or brick veneer. Using over 60% less embodied energy, and producing at least 55% less greenhouse emissions than concrete or brick veneer, Hebel is the cleaner, greener choice.



### FASTER CONSTRUCTION TIME & LOWER COSTS

Hebel is a strong and robust building material that's extremely cost effective. Given that Hebel panels can be easily cut on-site using standard tools, construction times are slashed and there is less wastage. The result is lower labour costs and significant savings for the homeowner.



### BETTER ACOUSTICS

Hebel gives you more peace and quiet. When compared to polystyrene and fibre cement external walls, and particleboard for flooring, Hebel significantly reduces sound transmission between rooms and also reduces noise from external sources such as traffic.



### PROVEN AND BACKED BY CSR

Hebel products and systems are designed, developed and warranted in Australia by CSR.

**hebel**<sup>®</sup>   
The better way to build

For more information on CSR Hebel, please call **1300 443 235** or visit [www.hebel.com.au](http://www.hebel.com.au)

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