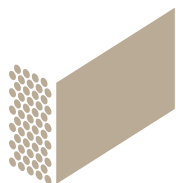


hebel[®]

The better way to build



Better for building
in bushfire zones



CSR

Build with Hebel® in all bushfire zones

Building design, construction methods and bushfire action plans are an important part of building in bushfire prone areas but most important is the choice of building materials, particularly the external cladding of the building.

Hebel® AAC (Aerated Autoclaved Concrete) products are non-combustible and provide a tested and certified fire rated external cladding material. Tested by CSIRO and Exova Warrington, Hebel delivers the right balance between thermal insulation and mass and it will not explode, even under extreme heat.

Hebel has developed a full range of solid and lightweight framed building systems for all aspects of detached housing and low rise multi-residential construction. The exceptional fire properties of Hebel systems make it an ideal choice in all BAL categories.

Requirements for bushfire zones

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 ²
BAL-29	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux between 19 and 29kW m ²
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	Blocks	✓	✓	✓	✓	✓	✓
	PowerPanel™	✓	✓	✓	✓	✓	✓
Floors	PowerFloor+	✓	✓	✓	✓	✓	✓
	PowerFloor	✓	✓	✓	✓	✓	✓
Subfloor Supports	Blocks	✓	✓	✓	✓	✓	✓
Verandahs, decks	PowerFloor+	✓	✓	✓	✓	✓	✓
	PowerFloor	✓	✓	✓	✓	✓	✓

Solid construction

Hebel Block homes provide frameless loadbearing walls with an amazing Fire Resistance Level (FRL) of 240/240/240. Together with Hebel PowerFloor+ for suspended floors they comply with the requirements for all six BAL zones when constructed in accordance with the masonry code and Hebel's Block Design and Installation guides.

Hebel® Block External Walls

Hebel Blocks are manufactured from lightweight AAC and joined with Hebel Adhesive to form a monolithic structure. A range of blocks and floor panel sizes are available to suit a variety of applications including internal and external walls, flooring, lintels, step treads and bath hobs.

Building with Hebel provides substantial benefits over traditional solid masonry construction materials:

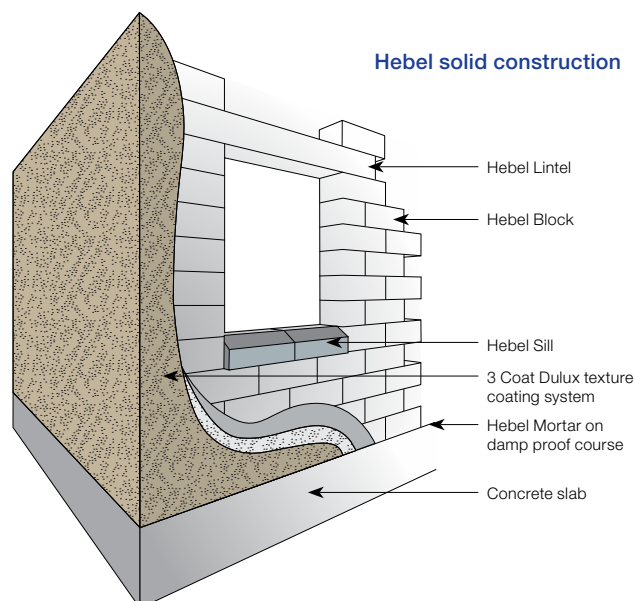
- **Excellent thermal and acoustic insulation properties**
- **Non-combustible blocks with frameless construction delivers superior fire resistance**
- **73% less embodied energy and 61% less greenhouse gas emissions than comparative masonry products (source LCA report GECA 2006)**
- **Faster installation than double brick and concrete**
- **Not a food source for termites or vermin and no cavity construction eliminates the chance of harbouring pests**

Hebel® PowerFloor+ Floor System

Hebel PowerFloor+ steel-reinforced AAC panels are 150mm - 250mm thick and boast an FRL level of 180/180/180. The floor system uses a ring anchor to create a flat, solid surface ready for just about any floor covering from carpet to direct fix tiles and timber. This building system complies with all BAL requirements and is ideal in solid home construction for second storey flooring or ground floors on sloping sites. It eliminates the need for timber or steel floor framing or pouring of concrete.

Hebel Floor Panel benefits:

- **Non-combustible frameless construction**
- **Span up to 6 metres**
- **Exceptional acoustic insulation for second storey flooring**
- **Excellent thermal performance, particularly for exposed ground floors**
- **Not affected by weather during installation**



Lightweight framed construction

Hebel's panel building systems are suitable for use on timber and steel framing to create a non-combustible barrier to smoke, flames and embers when installed in accordance with AS3959:2009 requirements.

Hebel® PowerPanel^{XL} External Wall System

The Hebel PowerPanel^{XL} external wall system consists of Hebel PowerPanel^{XL} fixed vertically to horizontal top hats attached to a timber or steel loadbearing frame. Hebel PowerPanel^{XL} achieves an FRL of 180/180/180 which far exceeds the requirements even of BAL-FZ.

A 3000mm x 600mm PowerPanel^{XL} is equivalent in area to 90 bricks making installation quick and easy. Significant savings in time and labour can be achieved so your project can reach completion sooner.

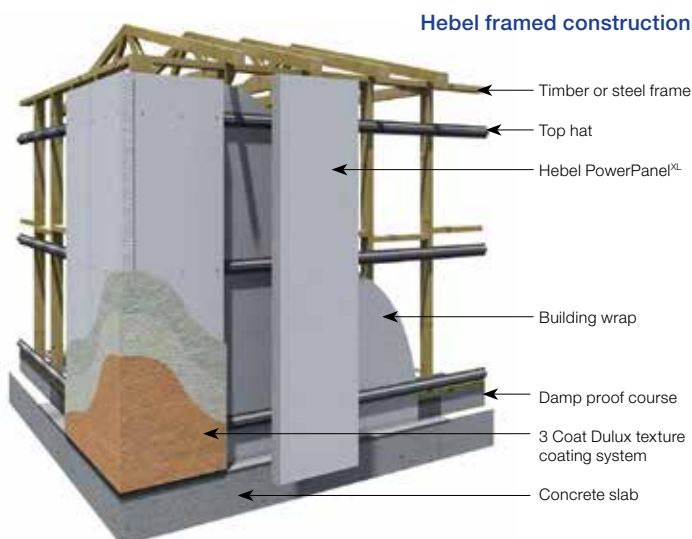
PowerPanel^{XL} Benefits:

- **Speedy installation – 600mm x 2400mm panels weigh around 63kg and two people can install up to 100m² in about three days**
- **Greater living area - thinner external wall allows for greater internal living space within the same building envelope**
- **Smooth flat finish - ideal for a beautiful and increasingly popular rendered finish**
- **Solid and strong with steel reinforced AAC panels**
- **Excellent thermal and acoustic insulation - increases the level of comfort for occupants and saves on heating and cooling energy costs**

Hebel® PowerFloorTM Floor System

The PowerFloorTM system consists of 75mm steel-reinforced AAC panels screwed and glued to a timber or steel frame. The system complies with all BAL requirements when the subframe is protected from an ignition source. Together with the unique benefits of acoustic and thermal insulation along with thermal mass, it is the ideal solution in bushfire prone areas.

- **Non-combustible panels**
- **Quick to install**
- **Good load carrying capacity**
- **Solid feel - eliminates the bounce and flex of timber sheet flooring**
- **Superior airborne noise insulation**
- **Excellent thermal performance - particularly for suspended floors on sloping sites**
- **Not affected by weather during installation**





Other building elements

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

Subfloor supports

Hebel Blocks and PowerWall™ 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 Expressed 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® 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.hebelaustralia.com.au

Designed for a better environment

Hebel has been independently assessed by Good Environmental Choice Australia (GECA) against other building products with the same application and has been awarded the GECA Label for each of its products and systems.

To qualify for the GECA endorsement, Hebel products and systems needed to show significantly reduced environment loads of at least 30% over their life-cycle. In some cases, Hebel's benefits were even stronger (up to 60%). By choosing Hebel you can feel good in the knowledge that you have chosen a building material that has a lower impact on our environment compared to standard masonry.

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.

Hebel® – the better way to build

Hebel is a quality building product, and is backed by CSR Building Products Limited. Further details on building with Hebel systems visit our website www.hebelaustralia.com.au or call **1300 369 448**

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