

Hebel®

for future living



HEB - 2006
Environmentally Innovative Products

Designed for our environment





Designed for future living

CSR™ Hebel® is helping to build the long-term future of Australian living with a commitment to products that are practical, versatile, environmentally preferable and durable enough to stand the test of time.

CSR™ Hebel® is Australia's leading manufacturer of Autoclaved Aerated Concrete (AAC), an amazingly innovative building material that has been used in Europe for more than 60 years and in Australia for more than 17 years.

AAC is a lightweight concrete that is formed into blocks and panels for a wide range of loadbearing and non-loadbearing construction applications. It is manufactured from sand, cement, recycled material, lime, gypsum, aluminium paste and aerating agents. It is moulded, cut and steam pressure cured in an autoclave before being packed, ready for transport.

AAC delivers the benefits of traditional masonry such as strength, acoustics, fire and pest resistance and is installed faster, saving valuable construction time. It has a unique combination of

thermal mass and insulation providing a more comfortable living environment.

The core component of Hebel® Systems is a 75mm thick, steel mesh reinforced panel which is supplied in various lengths and profiles to suit wall, floor and fence requirements.

CSR™ Hebel® has developed products and systems for all segments of the construction industry:

- New Detached Housing (Free standing homes)
- Alterations and Additions (Renovations and extensions)
- Low Rise Multi-Residential (Townhouses, villas, duplexes, seniors living)
- High Rise Multi-Residential (Apartments over 4 storeys)
- Commercial and Industrial (Warehouses, factories, shopping centres)
- Civil Sound Barriers (Freeway/ Road Noise walls)
- Outdoor/Indoor Living (DIY)



By choosing Hebel® you can feel good in the knowledge that you have chosen a building material that is better for our environment. The unique innovation that is Hebel® delivers a large number of key environmental benefits over comparable materials.

Independently assessed

To clarify these environmental benefits Hebel® has worked with Good Environmental Choice Australia (GECA) to conduct a life cycle assessment (LCA) to the international standard ISO 14 024 comparing Hebel® to other building products with the same application.

Life cycle assessment is the leading methodology used to quantify the environmental impacts over a product's entire life including; raw material extraction, production, during use and disposal at end the of the product life.

This independent assessment found that Hebel® has clear environmental benefits across all key environmental

criteria. These include global warming, acidification, heavy metal content, carcinogens, smog creation, cumulative energy demand, water use and solid waste generation. In many cases the environmental benefits were well over 60% better than comparable materials.

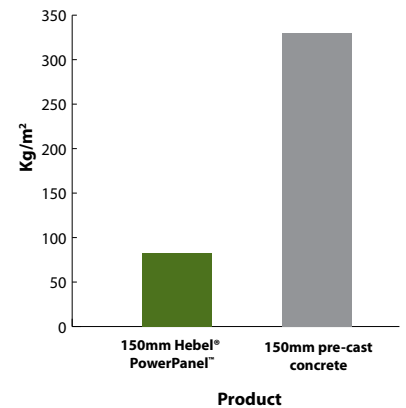
Hebel® is committed to providing a rounded and thorough picture of the environmental attributes of its products and as LCA methodologies and agreed standards change, Hebel® will continue to use independent environmental assessments to ensure comprehensive and credible information is presented to the market.

Raw materials

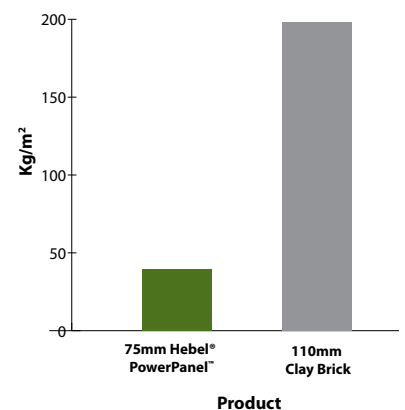
The low bulk density of Hebel® AAC means that less than a quarter of the resources and raw materials are used in its production than for other masonry products. All raw materials are sourced locally to minimise energy used in transport.

A better environment

Raw Material Usage Comparison



Raw Material Usage Comparison

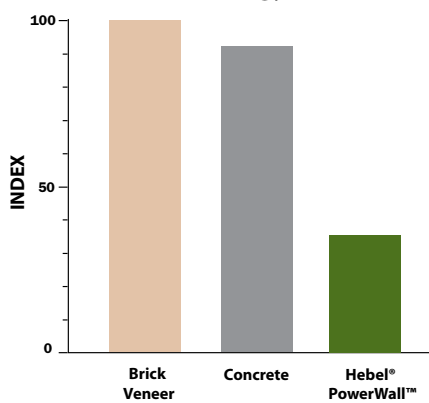


Between 4 and 5 times the m² of wall can be constructed from Hebel® products using the same quantity of raw materials when compared to concrete or conventional clay brick construction.



Photo courtesy of Bartush Homes

Embodied Energy



Production

The Hebel® production process is ecologically responsible with very little waste produced and we have a passion to reduce waste further through extensive recycling. Production waste, slurry and even the steam generated are recycled back into the manufacturing process while waste steel and oil are recycled off site. Even the non toxic citrus based solvents used for cleaning are recycled.

to leftover building materials. We are also investigating the use of crushing machines to recycle the finished AAC back into the manufacturing process.

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.

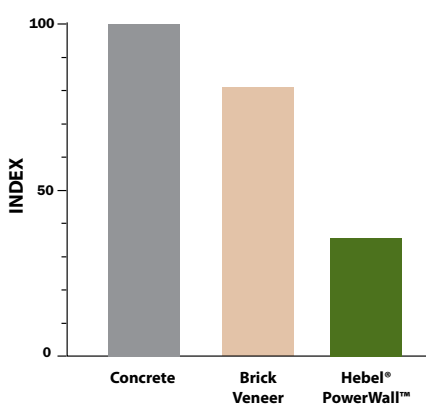
Embodied energy

Hebel® PowerWall™ uses over 60%* less embodied energy than comparative concrete and brick veneer wall systems.

Carbon Footprint

CSR™ has undertaken a major exercise to measure the company's carbon footprint and to help develop additional comprehensive plans to minimise its environmental impact. While this process is underway, at Hebel® we have introduced more flexible working hours and encouraged staff to work from home to reduce days traveled to and from work from 5 to 1 or 2 a week, a practical measure to further reduce our carbon footprint.

Greenhouse Gas Emissions



Usage

The combination of modular panel sizes which are designed to suit standard building practices and the ease of working with standard power tools means there is very little waste on site during construction. This means less mess and less landfill due

*Source: LCA Report GECA 2006



CSR™ Hebel® is proud to have been awarded the Good Environmental Choice Australia (GECA) Label for each of its products and systems.

To qualify for the GECA endorsement, Hebel® products and systems were assessed against the GECA 8-2005 Environmentally Innovative Products Standard. The assessment found Hebel® products and systems have significantly reduced environment loads, of at least 30% over their life-cycle, for the top three primary environmental impacts and in some cases the benefits were even stronger. In comparison to competitor products on the Australian market which serve the same functional purpose, around 50% less greenhouse gases and 50% less carcinogens were produced as verified by GECA.

Mr Petar Johnson, Chairman of GECA stated that “Hebel® products and systems have clear environmental performance benefits compared to most other widely used products in the construction industry in Australia. We expect to see a growing demand for this produce line as more architects, builders and construction firms grapple with

the environmental performance of their designs. Hebel® should be recognised as the leading wall, floor and sound barrier solution for Australia.”

The GECA label is a clear and credible guide for consumers who want to purchase products with lower environmental impacts and it is the only environmental labelling program in Australia that independently assesses the environmental performance of products from a life cycle perspective.

The Good Environmental Choice Label is based on an internationally agreed framework; ISO 14 024 requiring the establishment of detailed standards and on-site verification of compliance (www.geca.org.au).

The choice of one product over another on environmental grounds is becoming more and more critical. CSR Hebel® asks you to consider the GECA Label and choose products with low environmental impacts so we can all contribute to a better environment.

Environmental Award for Hebel®



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CSR™ Hebel® and our environmental industry commitment

CSR™ Hebel® understands a low footprint for our building materials is only one aspect of helping to reduce environmental loads. That is why in conjunction with other CSR™ divisions CSR™ Hebel® is a member of the following Environmental organizations.

- Good Environmental Choice Australia
- Green Building Council of Australia
- HIA GreenSmart
- EcoSpecifier

CSR™ Hebel® is not only committed to promoting its own solutions for real reductions in greenhouse gas emissions but also supporting the industry to build in smarter and more energy efficient ways. Only through a collective effort can we reduce global warming through materials and designs that have a lower environmental load.

Energy efficient

The unique combination of thermal resistance and thermal mass make building with Hebel® a smart choice for meeting Australia's stringent building regulations.

The thermal performance of a building depends on a number of factors such as orientation and size and aspect of windows. The R-Value of walls and floors can significantly affect the energy-rating outcome of dwellings, a 75mm Hebel® panel has up to 5 times the R-Value of a 110mm house brick[#] and a 250mm Hebel® Block has 11 times the R-Value. The use of Hebel® in walls and floors will provide increased thermal performance that can allow more flexibility with other design aspects of a building.

The thermal efficiency of Hebel® systems will also reduce the reliance on heating and cooling appliances. The combined effects of running a heater less in winter and fans or air conditioning less in summer can have a big impact on energy costs and the environment.



[#]AIRAH Technical Handbook 2000



Tranquil spaces

CSR™ Hebel® has worked closely with acoustic experts and testing authorities to develop systems that will provide superior sound insulation of interior and exterior walls and floors.

Noise is a particular problem in modern living, for residents of detached homes and multi-residential buildings and for people working in commercial buildings. CSR™ Hebel® protects the peace and privacy of residents and workers by turning internal and external walls and floors into effective sound barriers.

With the sound insulation of Hebel®, residents don't have to worry about bothering other members of their household or the neighbours – and they needn't be annoyed by other people's noise.

In the multi-residential building industry, Hebel® is seen as a leader in building materials largely due to its success in combating the problem of noise traveling between apartments.

Space and style

As Hebel® wall systems are thinner than traditional masonry alternatives, they allow a greater internal living area for the same building dimensions and provide greater design flexibility.

Hebel® is an amazingly versatile building material, with a surface finish that gives you the opportunity to achieve your own creative effects with an infinite palette of colour and texture combinations.

Fire and pest resistance

Hebel® provides excellent fire-resistance, an important consideration in many areas of Australia.

Many Hebel® systems achieve a four-hour fire rating (the maximum under Australian Standards), more than twice that achieved by traditional materials such as bricks. Additionally, by providing solid, loadbearing walls, Hebel® blocks negate the need for timber framing, eliminating fuel for

fire. In bushfire-prone areas, Hebel® can be invaluable as a fire-resistant barrier to ember storms, which often cause new fires.

Hebel® is not a food source for termites and when using our single skin solid block walls will not harbour other pests. There is no timber in the walls to feed termites and no cavity for vermin to live in.





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CSR™ Hebel® is a quality building product, and is backed by CSR™ Building Products Limited. Further details on engineering and building with Hebel systems are available in the CSR™ Hebel® Design Guides and Technical Manual. To obtain a copy, or for further sales or technical assistance, please visit our website.

CSR™ Hebel® Website:
www.hebelaustralia.com.au

For sales enquiries or further information, please telephone us from anywhere in Australia:

1300 369 448

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CSR™ HEBEL®
112 Wisemans Ferry Road
Somersby NSW 2250
Fax (02) 9495 7950

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