

masonry for living

Discover the Benefits of
Concrete Masonry.

masonry.
style and
function

build for living

 **australmasonry**[™]

Contents

Introduction to Concrete Masonry	3
Benefits of Concrete Masonry Products	7
Installation Benefits	8
Sound Insulation	10
Thermal Mass	12
Embodied Energy	15
Fire Resistance	16
Longevity	19
Reusability / Recyclability	20
Use of Recycled Materials	21
Corrosion Resistance / Marine Exposure	22
Safety and Protection	23
The Concrete Masonry Range of Options	24
Associated Companies	26

Introduction to Concrete Masonry.

Concrete masonry has been the backbone of the construction industry for 75 years, providing walling for homes, offices and apartment blocks, paving and retaining walls for residential, commercial and industrial applications.

From a predominantly industrial image at its inception concrete masonry has been reinvented for the 21st century with a vast array of colours, finishes, and formats available to suit contemporary designs and innovative applications.



Today concrete blocks are quickly becoming the facade and feature wall material of choice.

Colour:
Alabaster
Range:
Architec Smooth

An innovative future for concrete masonry set on strong foundations.

Invented in the 1930's the concrete block converted concrete, a well established and trusted building material, was developed into a series of pre-made units that were efficient to use and easy to transport.

The logical outgrowth of the discovery of portland cement, concrete masonry blocks were in with the manufacturing trends during the early 1990's.

Generally in standard grey colouring and known as 'cinderblock' or 'besser blocks', concrete masonry quickly gained popularity in the market thanks to their low cost, structural efficiency, and quick installation.

Today however this has all changed, with a range of different block colours, styles and finishes to suit a range of applications.

No longer are concrete blocks hidden behind other products. They are currently available in a natural sandstone look, contemporary monotone colours, and finishes that range from bold textured to finely polished.

Today concrete blocks are quickly becoming the facade

and feature wall material of choice for Australia's leading builders who choose it for its speed of installation, structural strength, colours and finishes, effortless style and cost savings.

When you also consider that concrete masonry can be comparatively low in embodied energy (per kilogram), long lasting, recyclable, and weather and fire resistant, it's not hard to understand why they're gaining popularity.

When considering building products to use on your project it's important to understand all the pros and cons before making your final selections.

Benefits of Concrete Masonry Products.

With concrete masonry products you know you're making the right choice when you consider the host of benefits they offer.

These include sound insulation, thermal mass, environmental impact, colours and finishes, ongoing maintenance and many more. See the list of benefits below so you can build in confidence with concrete masonry.

Sound insulation

Due to their mass, concrete masonry blocks enjoy acoustic properties superior to traditional building materials.

Range of colours and finishes

Concrete masonry products are available in over 78 colour and finish combinations. This offers you a wide range of products to choose from to suit the style of your home.

Thermal mass

Due to their mass concrete masonry products slow the transfer of external temperature fluctuations into internal living areas thereby reducing the need for artificial heating and cooling devices.

Affordable

When compared to other products on the market, concrete masonry is an affordable option. This is especially true when considering the complete building system as concrete masonry can reduce or negate the need for accessory products such as sarking and insulation.

Low maintenance

When you build with concrete masonry products you are building with a material that requires minimal maintenance and upkeep so you have more time for the important things in life.

Lower energy costs

Concrete masonry products can reduce energy costs by reducing the need to use artificial heating and cooling devices thanks to their thermal mass.

Fire resistant

Concrete masonry products are made from non combustible materials so they are fire resistant and therefore ideal for bushfire prone areas.

Weather resistant

Exterior walls that will hold up to heavy storms, U.V. degradation, blistering heat, and sub-zero temperatures.

Termite resistant

Masonry walls won't be degraded by termites as they are unable to attack concrete products.

Low environmental impact

Masonry block production has minimal impact on the environment because it does not deplete limited resources like many other materials. Concrete masonry products are cured in temperature controlled kilns at low temperatures with comparatively little energy used compared to kiln fired products.

Impact resistance

Masonry products are made from concrete which makes them strong and durable. They can endure significant impact from external forces with minimal impact to no effect.

Speed of construction

Concrete masonry products are much faster to build with than some commonly used walling materials and have the added benefit of being both structural and aesthetic.

Cyclone areas

Strong and durable, with the ability to core fill for added reinforcement, concrete masonry blocks are excellent for use in cyclonic areas.

Colour.
Porcelain
Range.
GB Honed

Stylish finish,
with fewer
components.

Colour.
Pewter
Range.
GB Aspect Honed

Installation Benefits.

Concrete masonry blocks are structural and facade materials, which removes the need for extra materials and the labour required to install them.

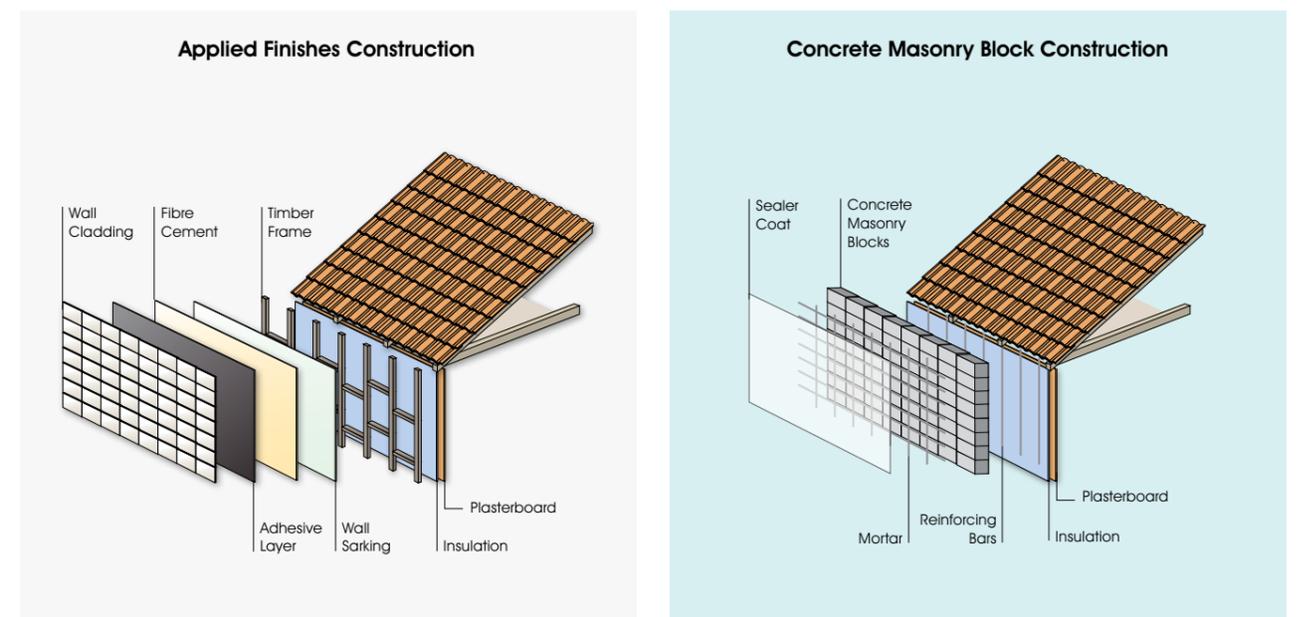
While many competing products require multiple components and use numerous trades to install, concrete masonry blocks simply require a block layer and the blocks together with mortar to construct. And what is better is that blocks can be installed to act as a load bearing component so there is no need for timber or metal framing.

With an applied finish you might need to build a timber frame, install plasterboard or fibre cement sheet for an internal finish. You then start on the external wall finish which can require plasterboard, sarking, adhesive, the cladding itself, and in many cases, other fixing and finishing components.

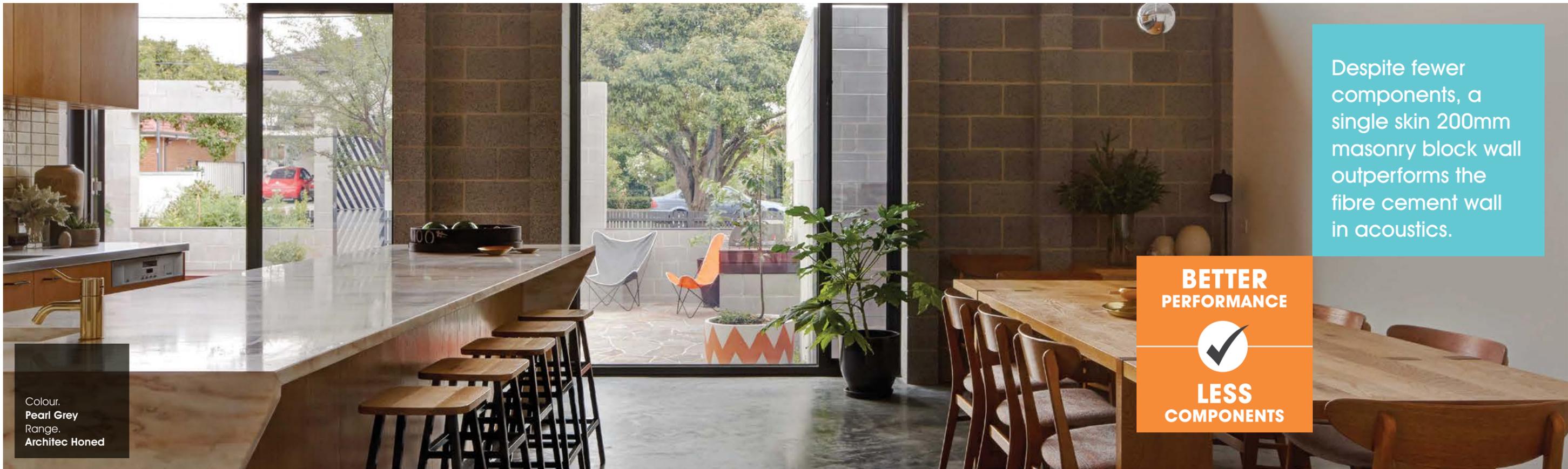
Masonry walls hold the structure above them up and require no finishing on either side as the finishing of the block on each side is beautiful on its own. The components used are generally reinforcing bars, mortar and the blocks themselves.

For this reason it can be cheaper, faster, and easier to build in concrete masonry to achieve a stylish look that will last for generations. However, if required, concrete masonry blocks can be designed in conjunction with other structural materials like steel and timber to create a full construction system and unique contemporary look.

Installation of concrete masonry blocks compared to applied finishes.



Please note: the example shown uses ideal construction for the installation of tiled walling. Builders use different construction methods and yours may not use or may use different materials in their construction.



Sound Insulation.

Concrete masonry is the quieter walling material.

The density of masonry blocks means they are better at insulating against external noise from vehicles, air traffic and extreme weather conditions.

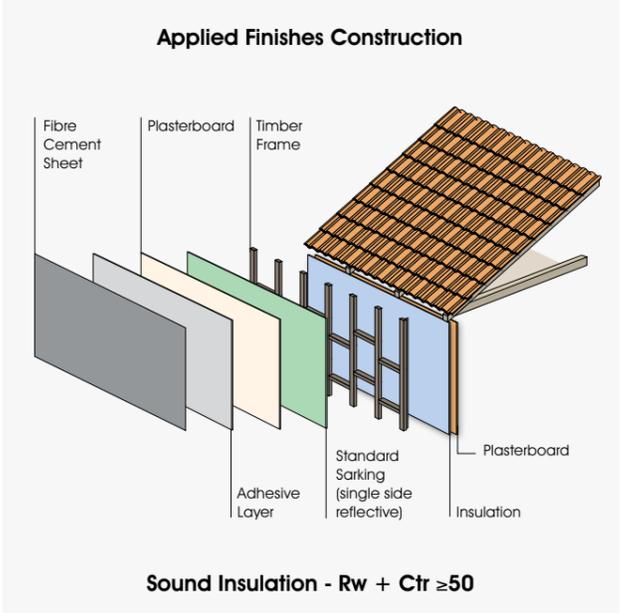
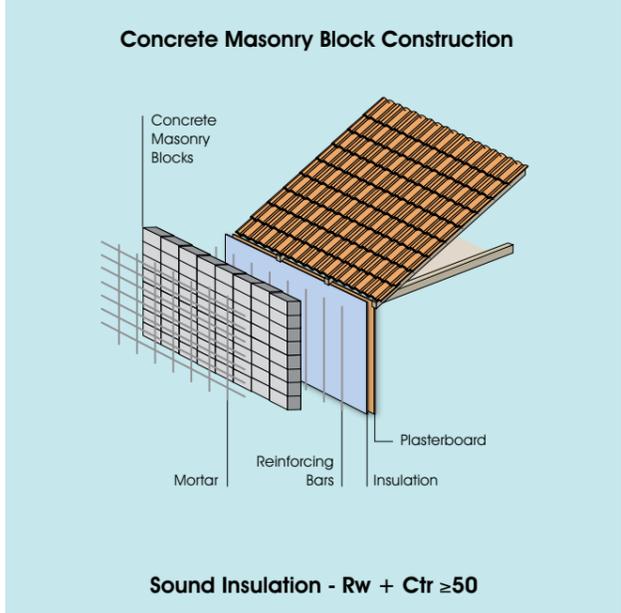
Most walling materials reduce noise but a concrete masonry wall provides a more substantial barrier than many other walling materials due to its sheer density. When core filled, this barrier increases substantially.

Many measures relating to noise note an Rw measure which takes into account high

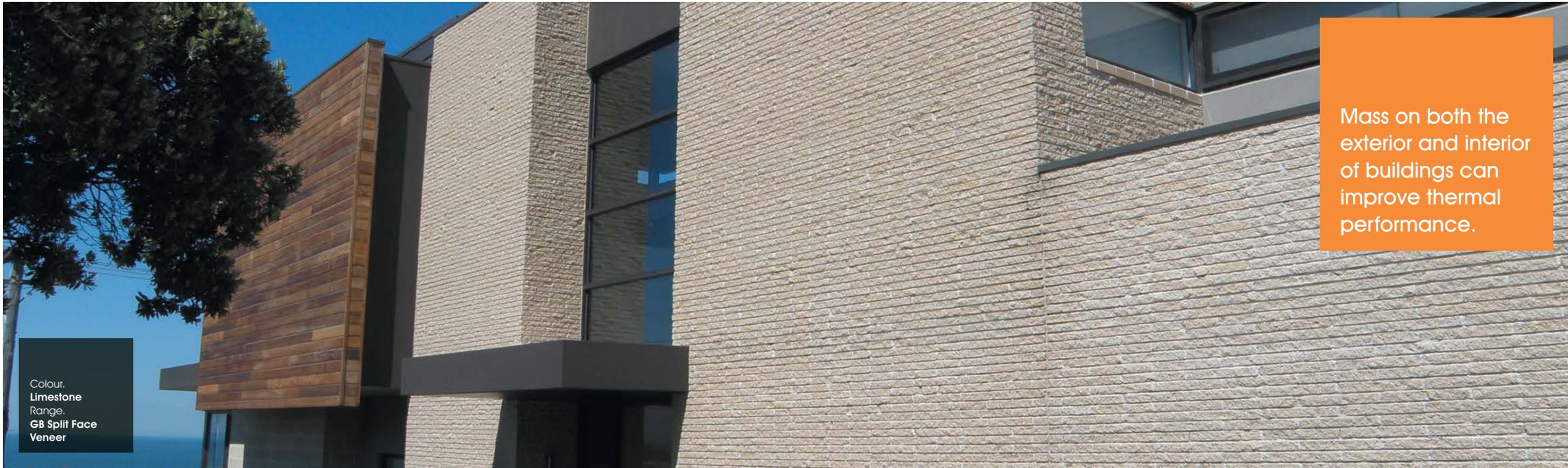
frequencies and a Ctr measure which accounts for low and mid range frequency noises. When used together, an Rw + Ctr takes into account the full spectrum of sound affecting inner city dwellings.

Masonry performs exceptionally well in reducing the intrusion of external noise into internal living areas.

Sound insulation capabilities of concrete masonry blocks and fibre cement.



Please note: Results are based on technical information from Austral Masonry's Fire and Sound Manual for a 190mm Series Alphalite block and a fibre cement panel suppliers technical data.



Colour.
Limestone
Range.
GB Split Face
Veneer

Mass on both the exterior and interior of buildings can improve thermal performance.

Thermal Mass.

Concrete masonry creates a thermal barrier for better, all round comfort.

Concrete blocks have a high mass which can produce energy savings over the life of a building through passive means.

When compared to similar lightweight buildings, high mass buildings can show energy-saving benefits in two ways:

Less Temperature Fluctuations

High thermal mass buildings such as those using masonry reduce the peaks and valleys in heating and cooling load, because the mass absorbs, stores, and releases heat, slowing building response time.

Masonry walls moderate temperatures and can reduce overall heating and cooling demands, as well as reduce the size and cost of heating, ventilation, and air conditioning equipment. This thermal damping improves occupant comfort, and works well in conjunction with passive solar and cooling ventilation strategies.

These strategies work best when masonry is directly exposed to the building's interior.

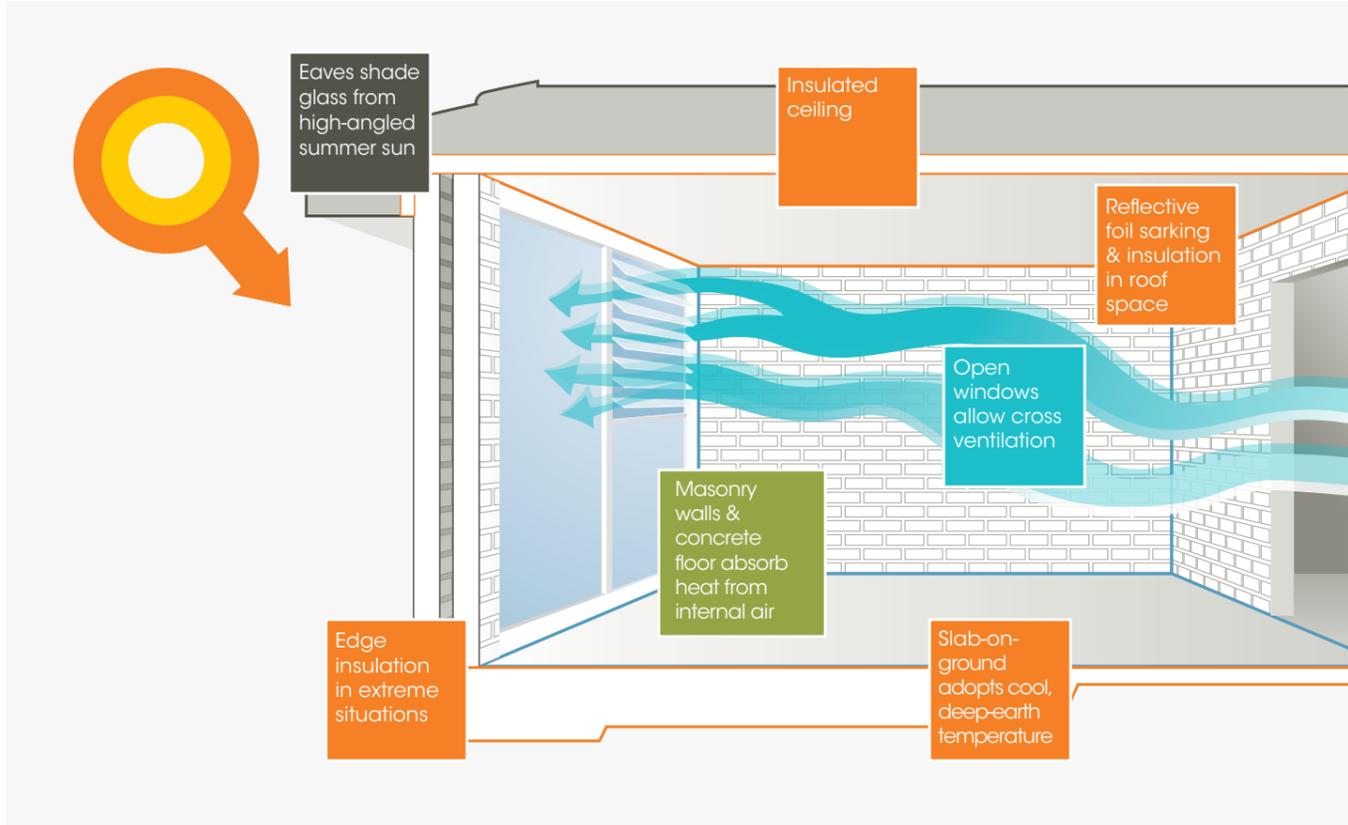
Mass in exterior claddings will moderate cavity temperatures, which reduces thermal loads transferred to the backup structure and thermal stresses on flashing and wall membranes. Concrete masonry performs exceptionally well in reducing the intrusion of external temperature fluctuations into internal living areas.

More Protection From The Outside

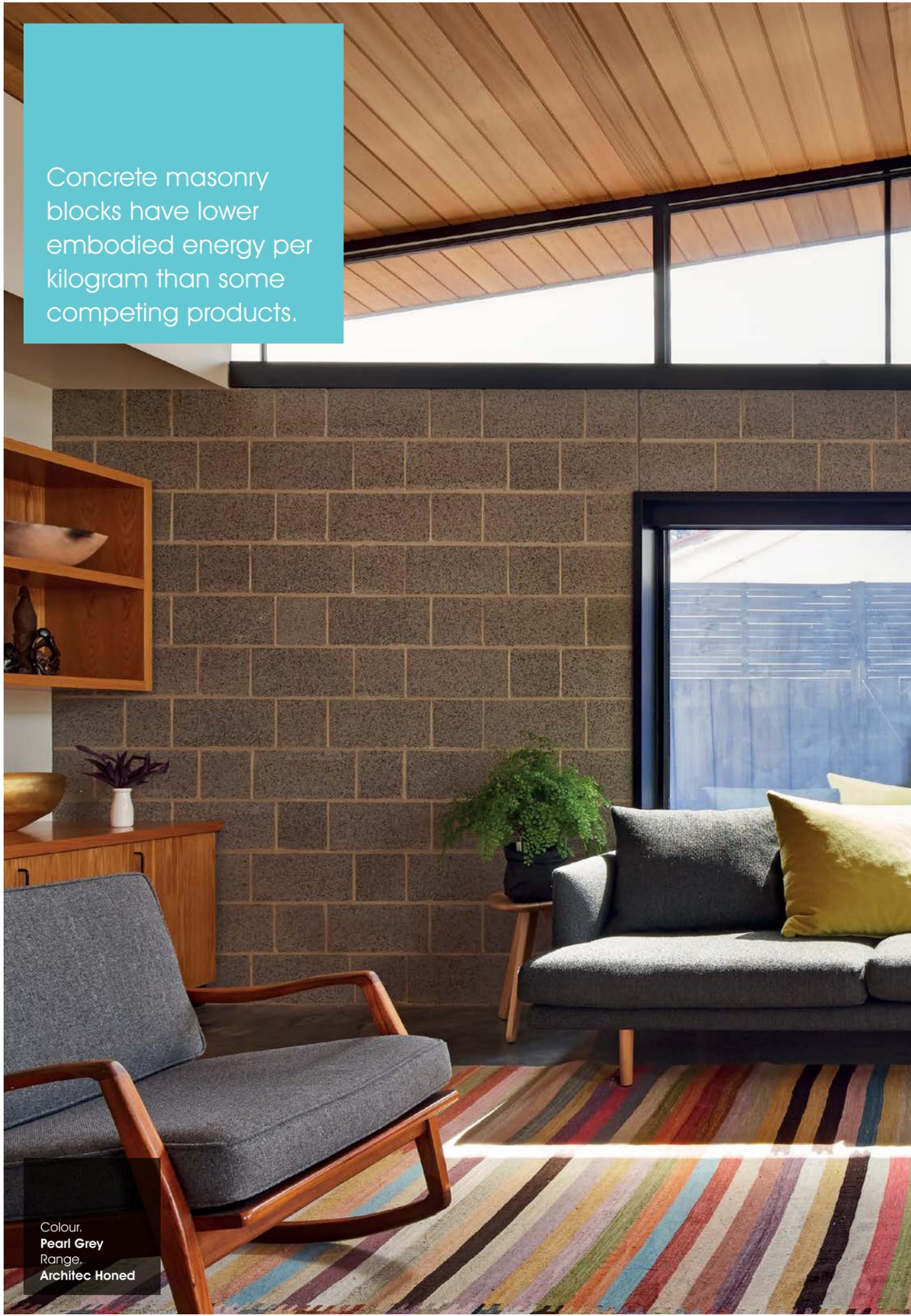
Thermal mass can delay heating and cooling loads, for example, by heat storing from the afternoon to warm the home in the evening.

This can reduce or even eliminate heating and cooling requirements, and can also take advantage of lower off-peak energy pricing.

Thermal insulation capabilities of concrete masonry blocks walls.



Concrete masonry blocks have lower embodied energy per kilogram than some competing products.



Colour:
Pearl Grey
Range:
Architect Honed

Embodied Energy.

Concrete masonry has a lesser impact on the environment.

Embodied energy measures the amount of energy involved in the extraction of raw materials, their transportation to the point of manufacture, the production process, delivery to the building site and installation of the product.

Embodied energy is one of the terms used to measure the impact of a product on the environment which is why an understanding of the term is important to informed debate on environmental sustainability.

The figures below show the difference in embodied energy between four of Australia's most commonly used walling materials: concrete masonry, clay bricks, fibre cement sheeting, and plasterboard.

In order to enable comparison, the materials have been examined in regards to their embodied energy with a measure of megajoules of energy per kilogram.

The results of the testing clearly identify concrete masonry blocks as the lowest embodied energy product of those noted, followed by clay bricks.

Plasterboard and fibre cement attained the highest embodied energy per kilogram of the four materials tested.

Concrete masonry blocks are manufactured using some of the most abundant materials found on earth. The manner in which materials are collected, transported short distances, and incorporated into manufactured products with relatively little energy provides minimal negative impact on the environment.

Concrete masonry manufacturers use more than 95% of extracted material in their production and the modular design of the manufactured block helps to reduce construction waste.

Unlike fired kilns, masonry kilns are simply temperature controlled with steam added to even curing. Because of this they require minimal energy to operate.

It is important to note that while embodied energy is important, it should be considered in relation to a product's usage life or product lifecycle.

Embodied energy content for various walling products.



Concrete masonry offers outstanding fire resistance.

50%

Greater Fire Resistance

Colour.
Alabaster
Range.
Architec Smooth

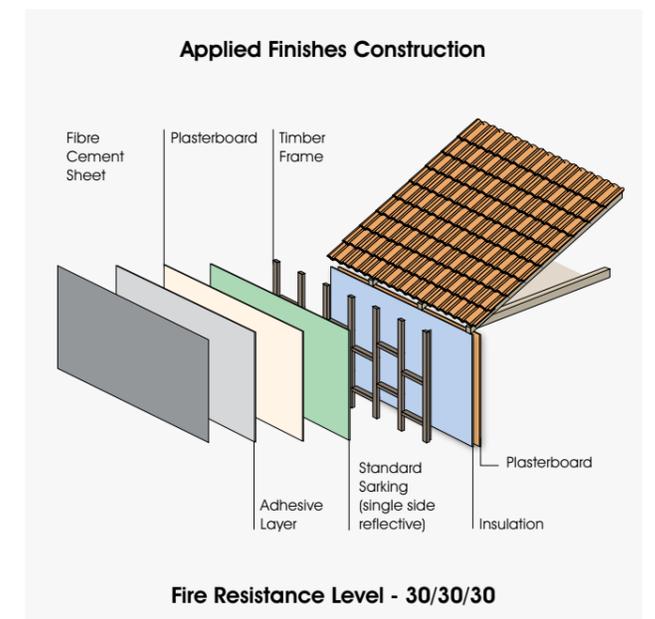
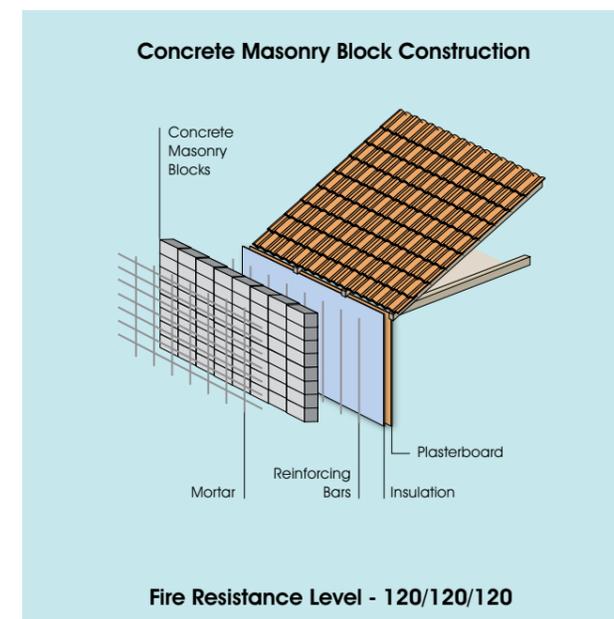
Fire Resistance.

Concrete masonry is non-combustible for greater fire resistance.

Because concrete masonry is composed of a non combustible material (concrete) it has a strong resistance to fire. When your home suffers from a fire, a material such as concrete masonry can stop fire spreading and provide precious time required to evacuate the building or for emergency services to arrive and put the fire out.

Australia regularly suffers from bush fires which makes designing with such events in mind all the more important. Concrete masonry walls offer excellent fire resistant properties, providing a barrier that, with proper installation, should remain structurally intact.

Fire testing of masonry blocks compared to fibre cement.



The Fire Resistance Level (FRL) is expressed as: structural adequacy/integrity/insulation and the number shown for each represents the time in minutes that the material measured is deemed to remain intact for each criteria during a fire. Please note: Results are based on technical information from Austral Masonry's Fire and Sound Manual for a 190mm Series Alphalite block and a leading fibre cement panel suppliers technical data.



Longer lasting buildings will help save virgin materials and reduce construction waste.

**LONGER
LASTING**
✓
**LESS
WASTE**

Colour.
Porcelain
Range.
GB Honed

Standard usage periods for walling products.



Longevity.

Concrete masonry products offer outstanding longevity.

These attributes are among masonry's greatest assets. Many masonry buildings have passed their 100-year anniversaries.

Structures that last a long time, require less maintenance, and can be adapted for reuse casting a smaller shadow on the environment. Its important to a given products impact over its full lifecycle, from its creation, transport to

site and installation, through to performance in application and When considered from a lifecycle perspective, long lasting, durable product like concrete masonry excels.

There is no doubt that longer lasting buildings will help save virgin materials and reduce construction waste.

Reusability/Recyclability.

Concrete masonry products are reusable and recyclable.

The use of recycled content in the production of building materials is beneficial because it reduces the impacts from both the sourcing of new raw materials and the disposal of waste materials. Unlike many construction products, the raw materials for brick and block production are abundant and widely available. However, it is still worthwhile to minimize the amount of virgin material that must be processed and transported.

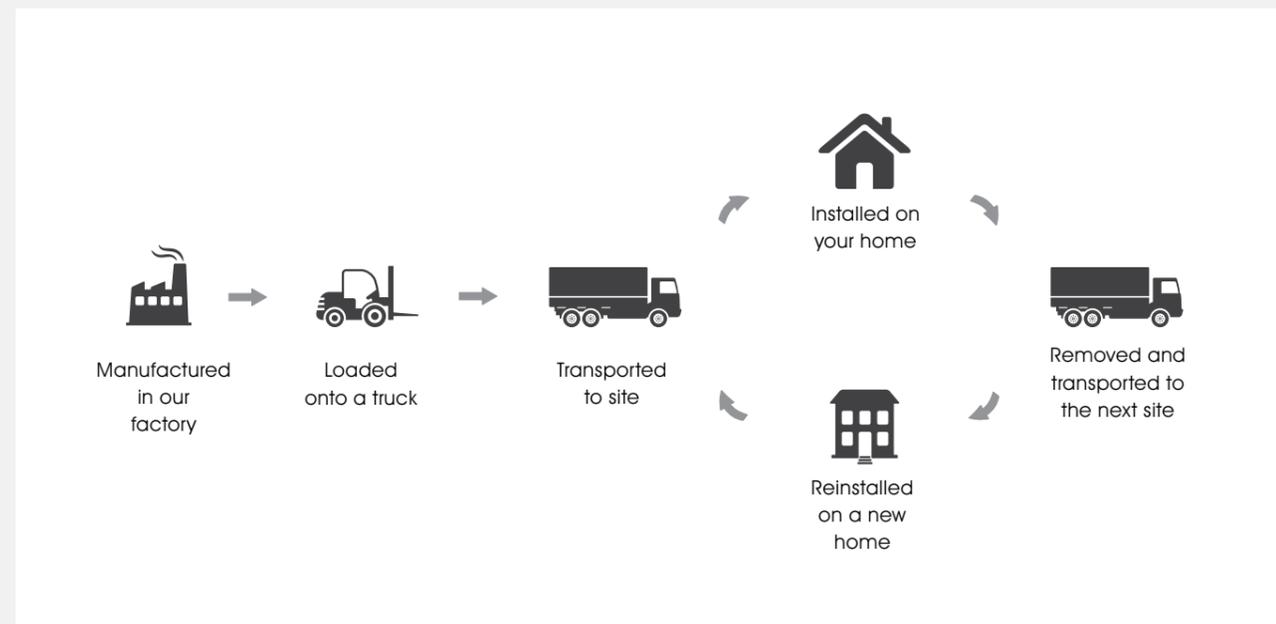
Masonry materials themselves can also be recycled for other uses. Concrete blocks can be salvaged and crushed for reuse as aggregate and as high quality structural fill.

They can also include pre-consumer recycled materials that have not passed through the consumer waste stream, but are waste products from manufacturing processes, such as masonry unit culls. While a multitude of potential recycled materials are being investigated, they must be carefully evaluated to determine if they are suitable for the manufacture, construction and long term serviceability of concrete masonry products. Masonry units can be reused as salvaged materials, depending on their properties and adequate cleaning to remove mortar and grout.

95%

Re-use of building materials commonly saves as much as 95% of embodied energy.

How concrete masonry can be re-used.



Use of Recycled Materials.

Making use of by-products from other materials manufacture.

Supplementary Cementitious Materials (SCMs), such as fly ash and ground granulated blast furnace slag (slag), are being used increasingly as replacements for part of the portland cement content in concrete products. This includes replacing some of the portland cement in concrete block, grout and mortar mix designs.

Slag is a by-product of manufacturing steel, while fly ash is generated from cleaning the stack emissions of coal-burning electrical generating plants. The use of these materials combines the benefits of utilizing waste products and reducing the volume of raw materials.

SCMs have cementitious properties that can make them suitable as replacements for 20% or more of the portland cement in concrete block and up to 60 to 80% of the portland cement in grout. When used, SCMs

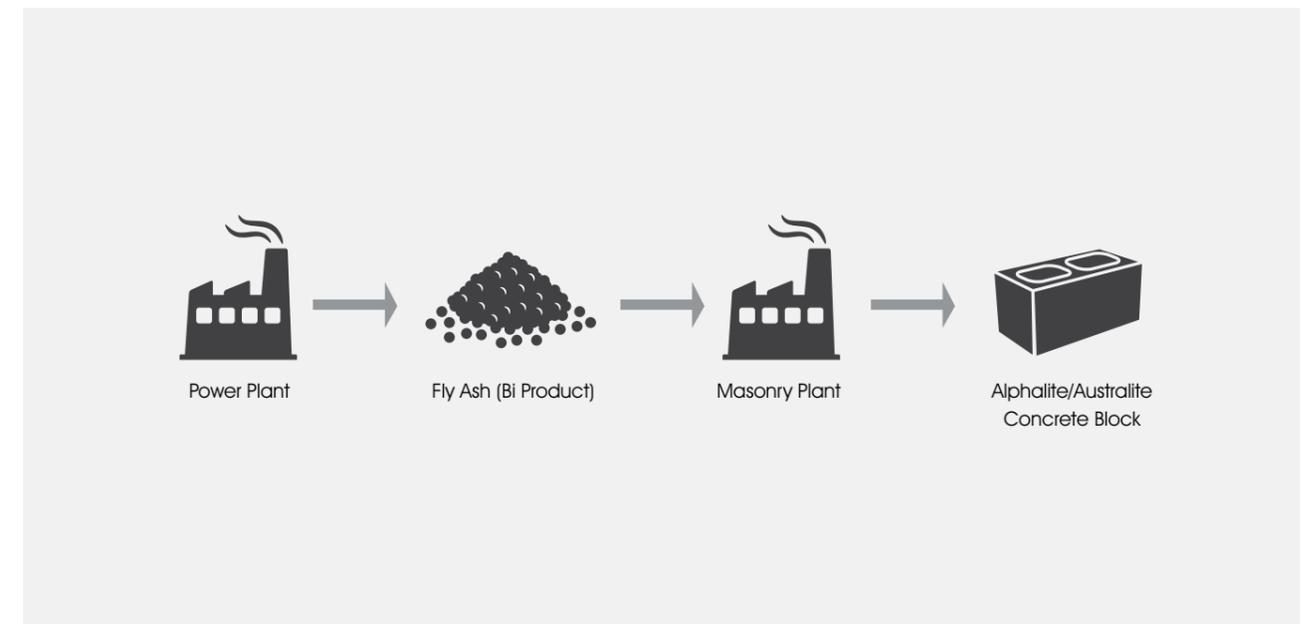
typically contribute to pre-consumer recycled content.

Recycled materials can also replace some of the sand and gravel aggregate in concrete block and grout. Aggregate replacements can include post-consumer products such as recycled glass or masonry and concrete demolition waste.

Austral Masonry plants in Caloundra, Ayr, Townsville, Rockhampton, and Cairns together with Coffs Harbour and Prospect in New South Wales all use fly ash in the production of their standard concrete blocks. Not only does reusing this by-product save it from landfill but it also reduces emissions associated with transport. The addition of SCM's reduces the weight of concrete masonry units which in turn reduces injury to the block layers who install them.

Alphalite and Australite grey blocks both use fly ash in their manufacture, thereby making use of the bi-product from power stations.

How fly ash is captured and used in concrete masonry manufacture.





Concrete masonry structures go above and beyond in providing improved safety and weather resistance.

Colour.
Alabaster
Range.
Architec Smooth

Corrosion Resistance/Marine Exposure.

Concrete masonry products are ideal for coastal homes.

Some building materials can be damaged by corrosion as a result of exposure to salt and moisture. Concrete masonry products however are non corrosive and rust resistant which makes them ideal for use in coastal areas or marine environments.

Concrete masonry products will undergo durability testing which effectively simulates the

long term impact of harsh weather conditions of coastal environments on the product. Testing on concrete masonry blocks from the Architec range for instance shows that these blocks achieved an exposure exposure grade rating. This means they can be used in even the harshest coastal environments without fear of corrosion, degradation or rotting.

Safety and Protection.

Concrete masonry buildings are built strong.

While most environmental rating systems include occupant health and comfort, they frequently ignore the safety and protection of those inhabitants. Concrete masonry structures go above and beyond other building systems in providing improved fire safety; shelter from hurricanes, cyclones, tornadoes and

earthquakes; and protection from blasts and bullets. Increased disaster resistance and improved durability are key components of sustainable buildings and concrete masonry building offer this durability and strength to withstand even the harshest weather conditions.

The Concrete Masonry Range of Options.

The range of block finish and colour options below demonstrate why concrete masonry blocks offer a wealth of choices to design a creative and eye catching home, office or apartment block.

Finishes Guide.

Austral Masonry Concrete Blocks are available in a range of finishes to suit your style and project.

Shot Blasted



The shot blasted finish is created through a process that subtly exposes the aggregates, producing a weathered, stone-like finish.

Available in:
Architec Shot Blasted

Rock face



The rock face or bolstered finish results from a unique process called bolstering which chips the edges of the block face to give it a rocky appearance.

Available in:
GB Sandstone Rock Face

Split face



The splitting process used to create these blocks produces a bold textured exposed aggregate finish.

Available in:
GB Split Face
GB Sandstone Split Face
GB Aspect Split Face
GB Veneer Split Face
Architec Split Face
Southern Split Face

Smooth



A finely textured finish created through the standard moulding process.

Available in:
GB Smooth
GB Sandstone Smooth
Architec Smooth
Southern Smooth

Honed



The honing process grinds 2-3mm from the block surface producing a matt exposed aggregate finish.

Available in:
GB Honed
GB Sandstone Honed
GB Aspect Honed
Architec Honed
GB Veneer Honed

Polished



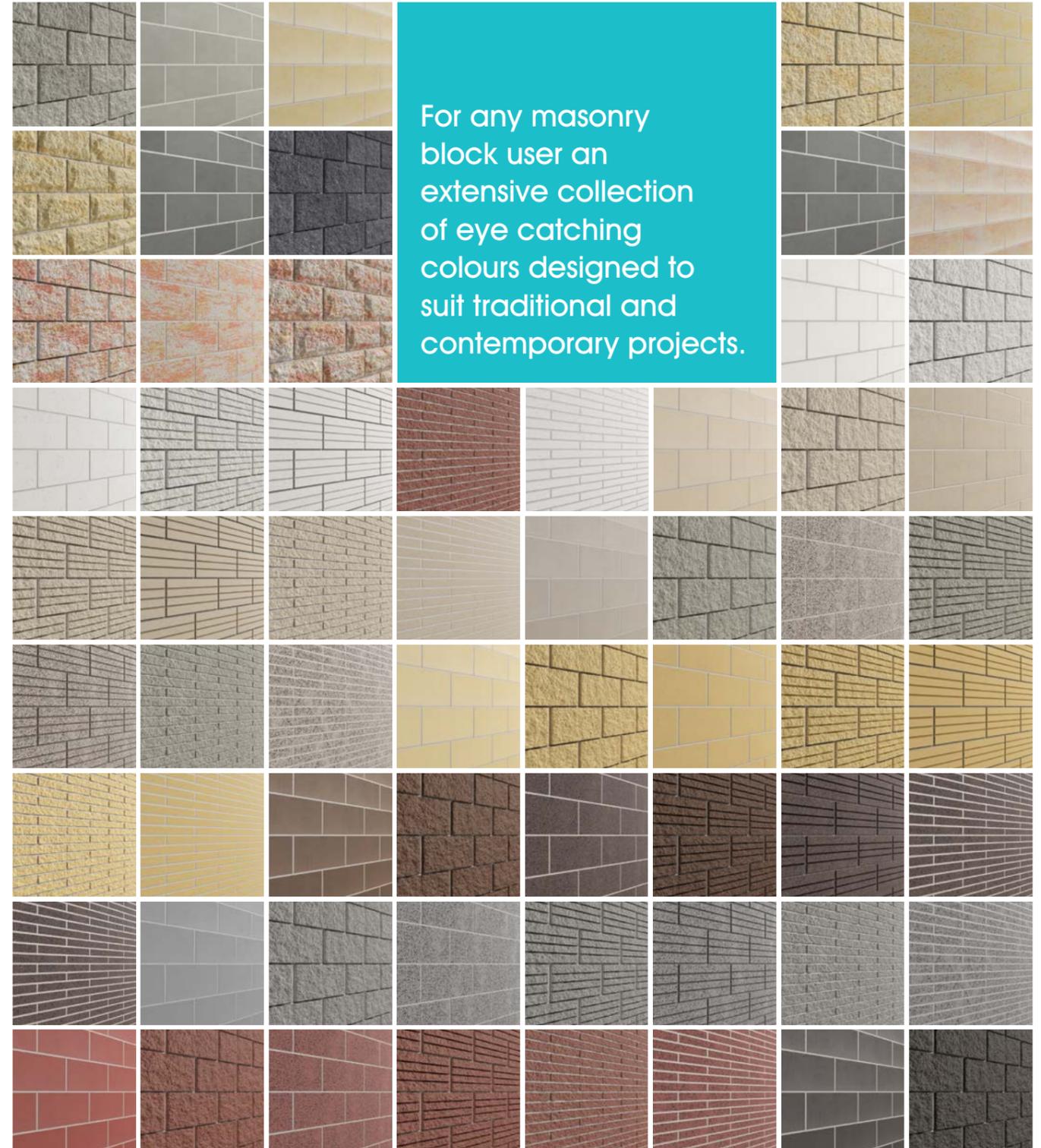
This involves producing a denser block which is honed and then buffed. Polishing enriches the colour of the aggregates. The finely finished polished surface is ideal for feature walls, trims and banding.

Available in:
GB Stone
Architec Polished

Discover
a world
of colour
choices.



For any masonry block user an extensive collection of eye catching colours designed to suit traditional and contemporary projects.





Associated Companies Brickworks Group of Companies

BRICKWORKS

Brickworks Building Products™ is one of Australia's largest and most diverse building material manufacturers. Under the Brickworks Building Products™ umbrella are some of Australia's best known building materials brands.

Our products include bricks, pavers, masonry blocks, retaining wall systems, precast concrete panels, concrete and terracotta roof tiles, timber products and specialised façade systems.

With a broad product portfolio and manufacturing and sales facilities across Australia, Brickworks Building Products™ is uniquely placed to service the demands of the building industry.

With over 1200 staff across Australia and New Zealand, we pride ourselves on our commitment to product and service excellence and our leadership position.

australbricks

Founded in 1908, Austral Bricks® is Australia's largest, best-known and most efficient clay brick and paver manufacturer.

Austral Bricks® add distinct style to any type of home. Their natural colours and textures enable you to create striking façade contrasts or more traditional neutral colour tones. By investing in new technology Austral Bricks® now produce bricks with a variety of surface finishes, exciting colours and different sizes.

The result is a wonderful range of bricks for you to build a stylish, contemporary home.

BOWRAL BRICKS

When Bowral Bricks began production in 1922, a teenage Don Bradman was still scoring runs for the local side. Today their distinctive dry-pressed bricks are highly valued by discerning architects and builders across the country. The unique combination of traditional craftsmanship and modern technology will ensure that the Bowral Bricks brand will remain the benchmark for brick excellence for many years to come.

nubrik

With a heritage reaching back to 1862, Nubrik™ premium-quality bricks are still moulded the traditional way on century-old presses. Their time-honoured expression of authenticity and elegance is acknowledged by architects, builders and discerning homebuyers who also value their rich colour blends, solidity and crisply-defined edges.



Since 1853, Daniel Robertson® has helped build Australia with building products that combine craftsmanship with architectural excellence. In a world of mass production, where qualities are constantly compromised, Daniel Robertson® premium-quality clay bricks are highly prized for their unique character, earthy appeal and individual charm.

nzbrick

Backed by a proud history of more than a century of brickmaking experience, NZ Brick Distributors™ offers New Zealand's most comprehensive range of high quality bricks and pavers in an unmatched palette of colours, textures and sizes, backed by a nation-wide sales and distribution network.

australmasonry

Austral Masonry™ is a leading manufacturer and supplier of concrete masonry products focused on providing functional but stylish solutions to the civil, residential, commercial and industrial building and construction markets.

Our passion is to create products to meet the technical and functional demands of the building industry, while also delivering architecturally striking and fashionable finishes to completed building projects. Our range of products includes standard grey concrete blocks, coloured architectural concrete blocks with a range of different finishes and a comprehensive range of retaining walls, pavers and garden edging.

australprecast

In just a few years, Austral Precast® has become Australia's premier supplier of high-quality, innovative and customisable precast concrete product solutions. Using state-of-the-art technology, production techniques and systems, our precast division produces a diversified range of wall, floor, column, and client-specific precast solutions. To meet the construction industry's ever-increasing demands, the company operates from five plants located along the eastern seaboard and in Western Australia.

bristilerooting

For almost a century, Bristile Roofing™ has delivered stylish and innovative roofing products for Australian homes. Bristile is now one of Australia's largest manufacturers and installers of quality roof tiles and the exclusive Australian distributor of La Escandella premium-quality clay roof tiles from Spain. Product innovation, manufacturing expertise and first-class service guarantee a strong, low maintenance roofing solution that will look great and perform superbly for generations.

auswesttimbers

From production facilities in Western Australia, Victoria and the ACT, Auswest Timbers® manufactures a diverse range of timber products. Jarrah, karri and chestnut timbers are processed into a range of decorative, seasoned products for furniture and joinery, flooring, decking, staircase components, veneers and fence screening. Green structural timbers are also processed for mine, wharf and rail track construction, as well as for floor joists, roofing timbers and roof tile battens.

Austral Masonry Head Offices

Gympie

Cnr Woondum Rd
and Bruce Highway
Gympie QLD 4570

Queensland

184 Burnside Rd
Yatala QLD 4208

New South Wales

44 Clunies Ross St
Prospect NSW 2148

Victoria

59 Elliott Rd
Dandenong VIC 3175



masonry for
living

build for living

We are committed to social and environmental responsibility and sustainability and are proud of our record of community support.

Trading hours

For trading hours please visit www.australmasonry.com.au

1 300 MASONRY (1 300 627 667)

www.australmasonry.com.au



proud supporters



The range of building products from
BRICKWORKS
BUILDING PRODUCTS

australbricks
since 1908

bristileroofting

australprecast

terracade
TERRACOTTA FACADE SYSTEM



australmasonry

nubrik
earthcrete brickwork

auswesttimbers



BORAL BRICKS