

Grey Blocks

Victoria



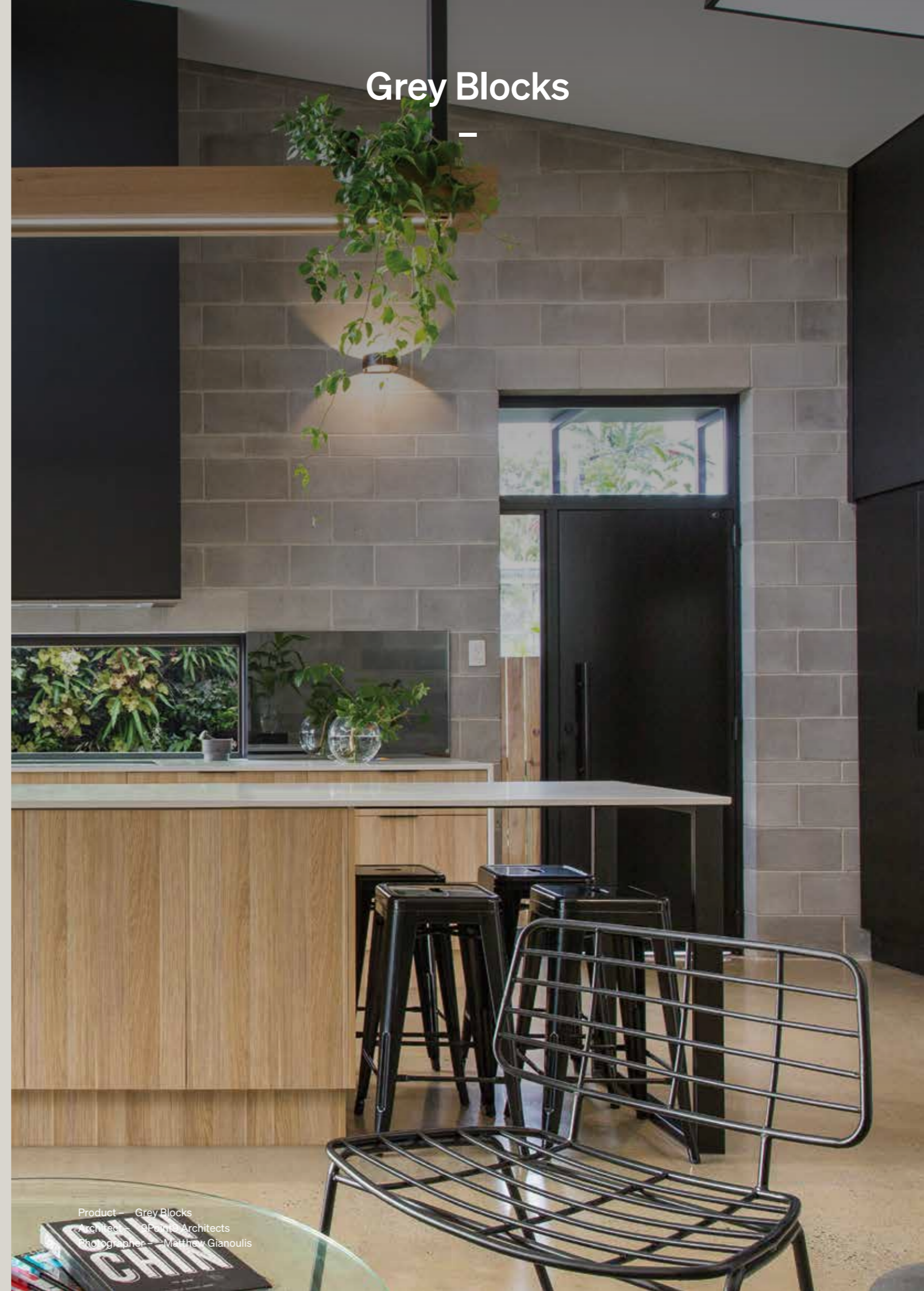
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Cover Image:
Product – Grey Blocks
Architect – 9Point9 Architects
Photographer – Matthew Gianoulis

A BRAND OF
BRICKWORKS

Grey Blocks



Product – Grey Blocks
Architect – 9Point9 Architects
Photographer – Matthew Gianoulis

Beautiful products that last a lifetime

—
Austral Masonry manufactures a range of grey masonry blocks that comply with the requirements of the Australian Standard AS/NZS4455.1:2008 tested under AS4456:2013.

The range has been designed as all-purpose units to meet a range of masonry site requirements. These masonry units are not only lightweight and load-bearing but also achieve high fire rating and sound insulation.



Product — Grey Blocks
Architect — MRTN Architects
Photographer — Peter Bennetts

Austral Masonry Grey Blocks

Strong, durable and allpurpose.

The grey masonry block range has been designed as all-purpose units to meet all your masonry site requirements. These masonry units are not only strong and load-bearing, but also achieve high fire and sound ratings.










Range

- 100 series
- 120 series
- 150 series
- 200 series
- 300 series




Product – Grey Blocks
Architect – MRTN Architects
Photographer – Peter Bennetts

100 Series Grey Blocks

	Product	Size (mm)	Weight	Units per pallet	f _{uc} (MPa)	Insulation FRL
	10.01 Standard	390L x 90W x 190H	10kg	180	>15	120
	10.02 Three Quarter	290L x 90W x 190H	8kg	192	>15	120
	10.03 Half	190L x 90W x 190H	5kg	288	>15	120
	10.31 Full Solid	390L x 90W x 190H	13kg	144	>15	120
	10.33 Half Solid	190L x 90W x 190H	7kg	468	>15	120
	10.04 Quarter	90L x 90W x 190H	3kg	468	>15	120
	10.201 Cored Back Up Block	390L x 90W x 162H	9kg	156	>10	120
	10.203 Half Cored Back Up Block	190L x 90W x 162H	5kg	234	>15	120
	10.83 Half Height Solid	190L x 90W x 190H	6kg	288	>10	120

120 Series Grey Blocks

	Product	Size (mm)	Weight	Units per pallet	f _{uc} (MPa)	Insulation FRL
	12.801 Standard	390L x 120W x 190H	13kg	150	>15	120

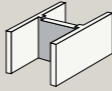
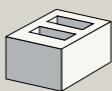

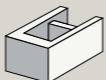
150 Series Grey Blocks

	Product	Size (mm)	Weight	Units per pallet	f _{uc} (MPa)	Insulation FRL
	15.48 'H' Block	390L x 140W x 190H	14kg	120	15	120
	15.01 Full Hollow	390L x 140W x 190H	13kg	144	15	120
	15.02 Three Quarter	290L x 140W x 190H	9kg	128	15	120
	15.03 Half	190L x 140W x 190H	6kg	192	15	120
	15.12 Lintel/Bond Beam	390L x 140W x 190H	13kg	120	15	120
	15.71 Half High Block	390L x 140W x 90H	6kg	240	10	90
	15.22 Corner	340L x 140W x 190H	9kg	96	15	120
	15.83 Half Height Solid	390L x 140W x 90H	10kg	168	10	120
	15.801 Cored	390L x 140W x 190H	17kg	120	15	120
	15.803 Cored	190L x 140W x 190H	8kg	192	15	120
	15.42 Channel	390L x 140W x 190H	16kg	144	15	120

200 Series Grey Blocks

	Product	Size (mm)	Weight	Units per pallet	f _{uc} (MPa)	Insulation FRL
	20.01 Full	390L x 190W x 190H	16kg	108	15	120
	20.02 Three Quarter	290L x 190W x 190H	13kg	96	15	120
	20.03 Half	190L x 190W x 190H	9kg	144	15	120
	20.12 Lintel/Bond Beam	390L x 190W x 190H	10kg	90	15	180
	20.42 Channel	390L x 190W x 140H	16kg	108	15	120
	20.48 'H' Block	390L x 190W x 190H	14kg	90	15	120
	20.61 C Block Clean Out	390L x 190W x 190H	13kg	72	15	120
	20.18 Deep Lintel	190L x 190W x 390H	13kg	72	15	120
	20.38 Half Height Flush Sill	190L x 245W x 100H x 70	-	-	15	N/A
	50.31 190 Capper	390L x 190W x 40H	6kg	216	15	120
	20.71 Half Height Hollow	390L x 190W x 90H	6kg	216	15	120

300 Series Grey Blocks

	Product	Size (mm)	Weight	Units per pallet	f _{uc} (MPa)	Insulation FRL
	30.48 'H' Block	390L x 290W x 190H	19kg	72	15	180
	30.01 Full	390L x 290W x 190H	19kg	84	15	120
	30.03 (20.02) Half	190L x 290W x 190H	13kg	96	15	120
	30.92 Full End/Open End	390L x 290W x 190H	16kg	60	15	120

Double Height and Render Grey Blocks

	Product	Size (mm)	Weight	Units per pallet	f _{uc} (MPa)	Insulation FRL
	dbl-brick Double Height Render Brick	230L x 110W x 162H	-	180	15	120
	fed-DW Render Brick	230L x 110W x 76H	-	420	15	120

2



Designing for fire resistance



When a masonry wall is subjected to fire, which is usually only on one side, a thermal gradient is created through the thickness of the wall and the expansion of the material causes bowing towards the fire source. If this bowing extends far enough it can cause collapse of the wall. If the wall does not collapse, it can crack due to internal stresses caused by restraint of the thermal expansion, or it can heat up sufficiently to allow flammable material on the side away from the fire to ignite. Both these consequences may allow the fire to spread.

The National Construction Code (NCC) requires that walls be designed in accordance with Section 6: Design for Fire Resistance of AS3700:2011, to provide the required fire resistance in buildings. This system provides an accurate method of predicting the ability of a wall to maintain its strength in a fire and to resist the spread of fire. The Austral Masonry Queensland Denseweight concrete masonry range complies with these standards. Note that these products contain less than 45% basalt in their mix designs.

The fire resistance level (FRL) is given in the form of three numbers, for example 180/120/120, which represent the required FRL (in minutes) for structural adequacy/integrity/insulation. Austral Masonry Queensland Denseweight products reach a 60 to 240/60/60* FRL rating when hollow and a 60 to 240/120/120* FRL rating when core filled.

*Optimum Slenderness Ratio (Srf) of masonry, from AS3700:2011, Table 6.1, is:

Hollow	Core Filled and Reinforced
18.0 at 60 minutes	36.0 at 60 minutes
17.0 at 90 minutes	36.0 at 90 minutes
16.0 at 120 minutes	36.0 at 120 minutes
15.5 at 180 minutes	36.0 at 180 minutes
15.0 at 240 minutes	36.0 at 240 minutes

Structural Adequacy

Structural adequacy is the ability of a wall to continue to perform its structural function for the fire resistance period. The fire resistance period for structural adequacy is a function of the slenderness ratio for the wall and is governed by three formulae in AS3700:2011, Clause 6.3.2.2. These formulae use the masonry panel's height, length, thickness and restraint conditions around the perimeter to calculate the panel's slenderness ratio for fire (Srf). The relevant Srf's for Queensland Denseweight product ranges are outlined in AS3700:2011 Table 6.1. (<45% Basalt) as seen below.

Restraint at the top of a wall can be provided by a load-bearing concrete slab, head ties from infill walls to the underside of a concrete slab or ties to a braced roof frame. End restraints can be provided by bonded corners, ties to columns or buttresses with a length greater than the wall height multiplied by 0.2. Where a wall butts into and is tied to the proposed fire wall, it divides that wall into two panels for the purpose of calculating Srf.

Integrity

Integrity is the ability of a wall to maintain its continuity and prevent the passage of flames and hot gases through cracks in the wall for the fire resistance period. Design for integrity is based on Clause 6.4.2 of AS2700 which deems that the FRL for integrity will be met if the wall meets the value for insulation and structural adequacy.

Insulation

Insulation is the ability of a wall to provide sufficient insulation such that the side of the wall away from the fire does not exceed a pre-defined temperature during the fire resistance period. However, it should be noted that at this temperature – a rise of 140°C over the ambient temperature or a maximum of 180 °C – surface finishes and furnishings in contact with or near the wall may combust.

Insulation is governed by the material thickness of the masonry unit. For solid and cored (core volume less than 30%) masonry units, the 'material thickness' is taken as the actual thickness. The actual thickness is also used for hollow units in which all cores are filled with grout. For hollow units which are unfilled or partly filled, the 'material thickness' is the net or material volume of the unit divided by its face area, commonly referred to as 'equivalent thickness'. If the wall is cement rendered on both sides, the thickness of the thinner coating up to a maximum value of 20mm may be added to the material thickness of the wall.



Block and brick estimator

Block and Brick Estimator

Type	Full Height	Half Height	Quarter Height	Standard Brick
Masonry unit face size (L x H mm)	390 x 190 mm	390 x 90 mm	390 x 40 mm	230 x 76 mm
No. units per m ²	12.5	25	50	50

Material Quantities for 1m of Mortar

- For every 800 full height blocks (390 long x 190 high) or 64m² of wall approximately 1m³ of mortar mix is required, allowing for wastage.
- There are 12.5 full blocks per square metre of wall surface area.

Mortex Preblended Mortar

1 x 20kg bag will cover 10-12 x 100 and 200 Series Full Height Blocks.

M3 General Purpose Mortar

Mix in 1 : 1 : 6 proportions

Cement	10 bags (20kg)
Lime	5 bags (20kg each)
Sand	1.0m ³ (1.4t)

M4 Exposure Grade Mortar

Mix in 1 : 0.5 : 4.5 proportions

Cement	13 bags (20kg each)
Lime	3 bags (20kg each)
Sand	1.0m ³ (1.4t)

Grout for Core Filling

The correct grout specification (mix design) is critical to achieving the structural design of a reinforced wall. The grout used to fill the cores of blockwork walls should be specified as follow:

- Grout to comply with AS3700 Clause 10.7 Part 11.7.
- Characteristic Compressive Strength minimum 20MPa.
- Where grout is to provide protection to reinforcement, cement content shall be not less than 300kg/m³.
- Round aggregate (if any) not more than 10mm.
- Clean sand (1.2m³)
- A pouring consistency which ensures that the cores are completely filled and the reinforcement completely surrounded without segregation of the constituents.

Control Joints

Because of temperature variations and the shrinkage in a concrete masonry wall after construction, it is necessary to provide control joints in blockwork at a max spacing of 6m and at points of potential cracking, e.g. beside openings and at large steps in wall or footing.

- Joint width is 10mm for panels up to 6000mm long.
- Joint sealants should be applied towards the end of construction to minimise the effect of panel movement.

Core Filling Quantities

Block Type	1m ³ Grout
15.01	230
15.48	210
20.01	150
20.48	125
30.01	90
30.48	69
40.925	50

Mortex Preblended Mortar

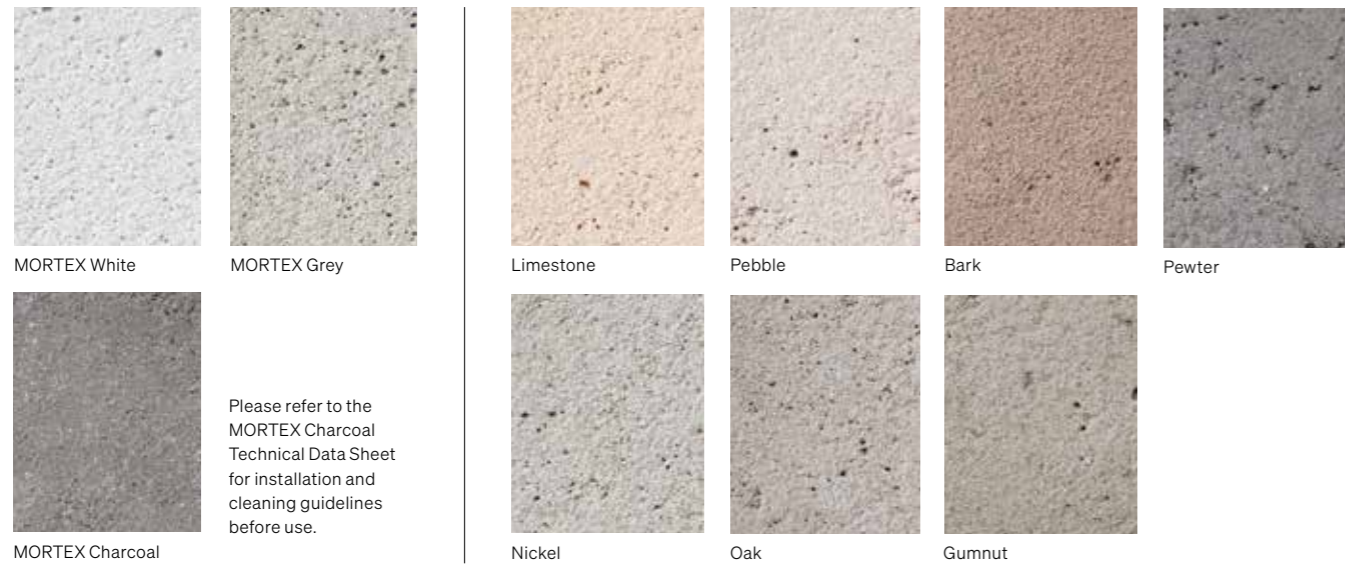
Mortex is a factory manufactured, quality assured premixed M4 rated mortar solution. Its consistency can save labour time, increase efficiency, remove the need for on site blending, and it is compliant with AS3700:2018. Mortex takes the guess work out of mortar blending and reduces the potential for under strength, non compliant mortar use.

This can ultimately reduce potential liabilities, saving money and time on rectifications. With the adoption of ISO9001:2008 principles, the mortar constituents are accurately measured and blended in a controlled environment to ensure consistent, homogeneous mortar is produced on-site.

Colours

White mortar is currently the most popular colour. This is made by mixing light coloured cement and white sand and results in a traditional block and mortar look. Mortar can be coloured by adding powdered or liquid pigments to the mortar as it is being mixed by the blocklayer. It can also be tinted to match the block colour, giving a very even wall colour.

Please confirm with your blocklayer what their mortar colouring offering is before making your final decision.



Efflorescence

Efflorescence is the formation of salt deposits, usually white, on or near the surface of concrete causing a change in appearance. Apart from the discolouration, efflorescence is generally harmless.

Austral Masonry recommends the use of sealers and AUS-LOC mortar additive to help combat efflorescence.

Sealers are applied to the blocks after installation and help to prevent water entering the masonry, dissolving salts and then drawing them to the block face. Please contact your local Austral Masonry representative for recommended sealers.

AUS-LOC mortar additive is recommended as a water repellent admixture for cement/sand mortar designed specifically for laying concrete blocks.

It may also be used as a water resistant admixture for other cement/sand mixtures such as cement/sand renders or concrete masonry.

Please note

The supply of raw materials can vary over time and as a consequence colour and finish variation can occur between product types and production batches. To see indicative samples before placing an order please contact your local Austral Masonry office.

Some of the important features of AUS-LOC include:

- Non-toxic water-based formulation.
- Improves workability of cement/sand mortars.
- Increased adhesion of cement/sand mortar.
- Reduces water penetration, efflorescence and water-borne staining.
- Does not significantly change vapour permeability of cement/sand mortars.
- Easy to use and cost effective.





Ideas for Inspiration

Whatever your ideas, we have the products to turn them into reality.



Coloured Masonry Blocks and Breeze Blocks
Our extensive range of architectural masonry products are available in a range of sizes, formats, and finishes from Austral Masonry and GB Masonry.



Grey Masonry Blocks
Austral Masonry offer an extensive range of sizes and formats with light weight options available in selected locations.



Retaining Walls
Choose from concrete retaining wall blocks or concrete sleepers suitable for DIY, general landscaping or large scale commercial retaining wall applications.



Engineered Pavers
Offered exclusively from UrbanStone, the engineered range of pavers are the pinnacle in quality and style.



Natural Stone
Granite, Marble and Limestone flooring, and natural stone wall cladding are style solutions created by nature and perfected by UrbanStone.



Porcelain Stoneware*
Created in Italy by Keope Ceramiche, our porcelain stoneware collection is the epitome of style, designed to suit indoor and outdoor applications.



Concrete Pavers
For commercial and residential applications, our range includes a collection of sizes, textures and a plethora of colours.



Limestone Blocks*
The engineered limestone and natural limestone block range is sourced through quarries in Western Australia with two finishes available to complement the natural limestone colour.



Preblended Mortar and Accessories
From Mortex preblended mortar, to concrete sealers and mortar additives, Austral Masonry offers a host of installation accessories.

Need more information?
Please contact your Austral Masonry representative or visit our Design Centres

*These products are stocked in selected locations.

Discover More



Discover

Brickworks Design Studios

Your local Brickworks design studio is a one-stop destination for advice and inspiration, and where you can experience the quality of our product range first-hand. Our experienced consultants will guide you through the range and help you find the best possible solution to your project – within your budget.

Call.
1300 Masonry

Create

iVisualise Tools

Using Artificial Intelligence and digital technology, you're now able to experience colours, forms and profiles with our online colour visualisation tool. iVisualise helps make selection seamless and simple – whether you're looking for a more traditional product, or something more contemporary.

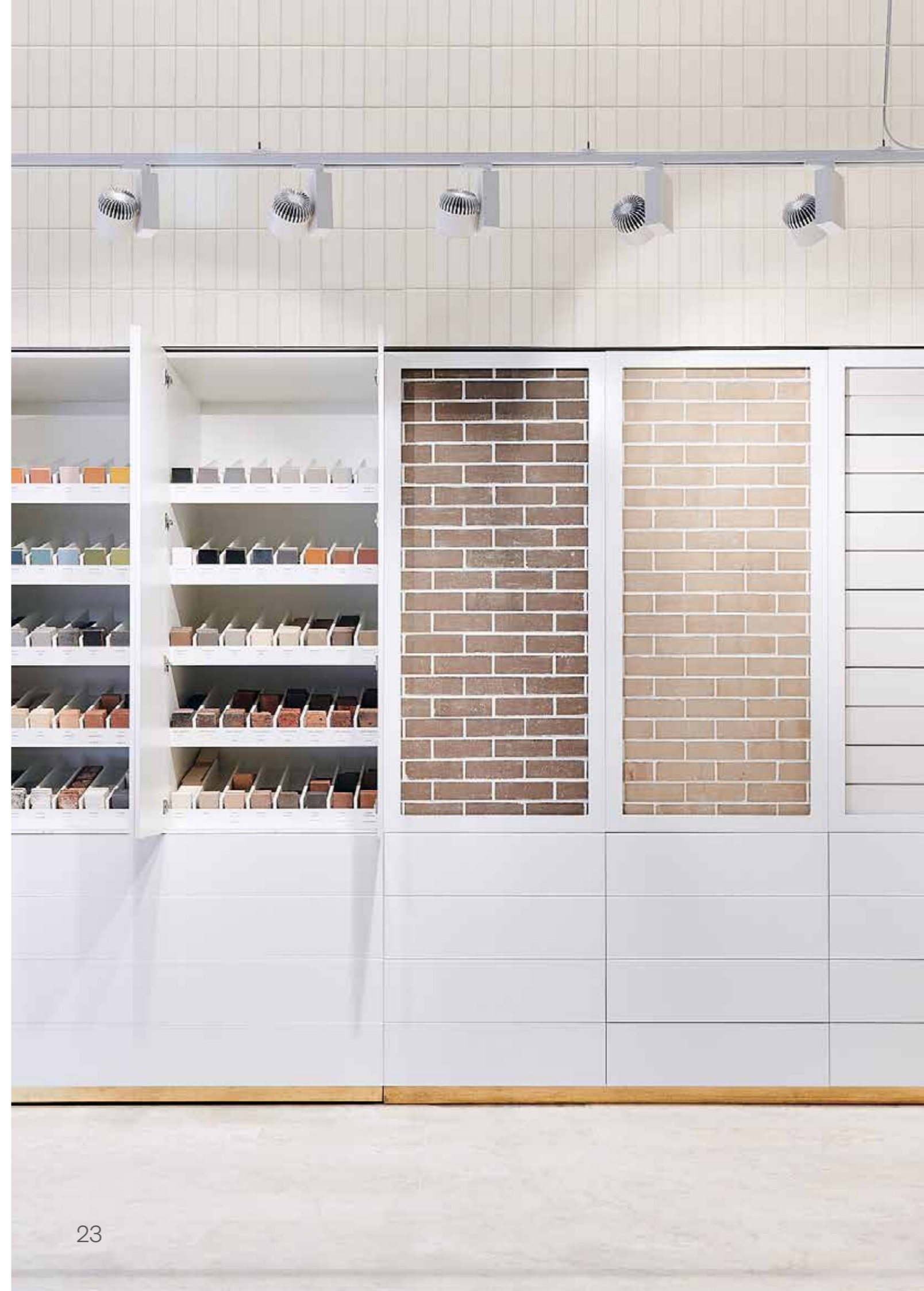
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Colour Consultations

Building or renovating a home is a major investment – and it should be an enjoyable experience for you. We can help with a one-to-one colour consultation where our experts can guide you on colour trends, the right fit and style, and ideas that will give you a genuinely individual look.

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Local expertise. Global quality. Brickworks Building Products are one of Australia's biggest building material producers. With heritage going all the way back to one of Australia's founding brick producers, we're proud of our reputation for design, innovation and sustainability.

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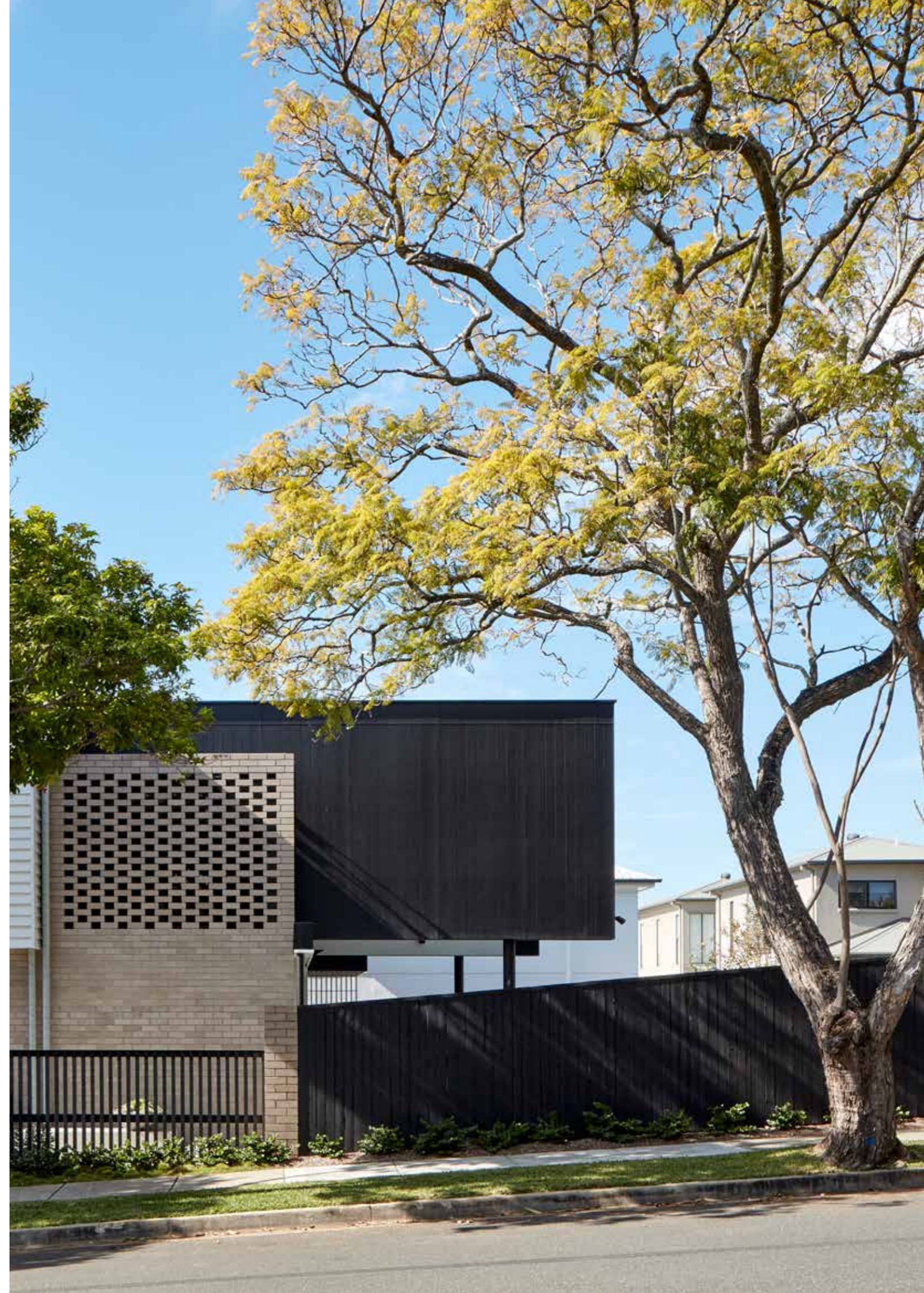
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