Installation Manual

GB Masonry

GB Latitude

What's inside

Compliance + Testing

1

Compliance + Testing

Compliance

Austral Masonry's GB Masonry Latitude is a concrete masonry product for use as an external cladding. The GB Masonry Latitude is manufactured to AS/NZS 4455.1 Masonry Units and as such, is a masonry material that complies with the performance requirements of the National Construction Code, NCC, Volume 2 Clause 3.3.1 unreinforced masonry when designed and constructed in accordance with AS 3700.

GB Masonry Latitude meets the requirements of NCC Clause 3.3.4 weatherproofing of masonry when designed and constructed in accordance with AS 3700. This is based on the service history of masonry in veneer construction with a drained and vented cavity.

Testing

Austral Masonry manufactures GB Masonry Latitude to satisfy the requirements of the Australian and New Zealand Standard for Masonry Units and Segmental Pavers, AS/NZS 4455. All products, including GB Masonry Latitude, are tested to the Australian and New Zealand Standard for Masonry Units and Segmental Pavers – Methods of Test, AS/NZS 4456. The testing is carried out in Austral Masonry's NATA accredited laboratory.

The properties of the GB Masonry Latitude blocks exceed the minimum requirements:

- Dimensional Category is DW2
- Unconfined Characteristic Compressive Strength is > 15MPa
- Durability Classification is exposure grade

The technical data for Austral Masonry's GB Masonry Latitude are provided in the table below:

Table 1 - GB Latitude Technical Specifications

	Product Name					
	G1101PO-1 Standard	**G1148PO-1 Stretcher**	**G1125ECL Ext Cnr Left**	**G1125ECR Ext Cnr Right**	**G1125ICL Half Height Sill**	**G1125ICR Corner Return**
Dimensions L x W x H (mm)	390 × 100 × 140	390 × 100 × 140	280 × 100 × 140	280 × 100 × 140	280 × 100 × 140	280 × 100 × 140
Dimensional Category	DW2	DW2	DW2	DW2	DW2	DW2
Weight (kg)	8.6	9.1	6.2	6.2	6.3	6.3
f'uc (MPa)	>15	>15	>15	>15	>15	>15
Initial Rate of Absorption	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15
Durability Grade	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure

Technical Data

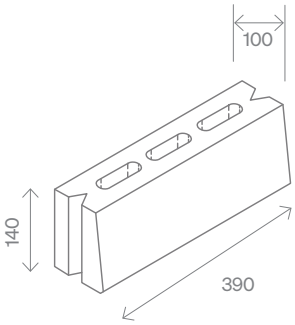
2

Technical Data

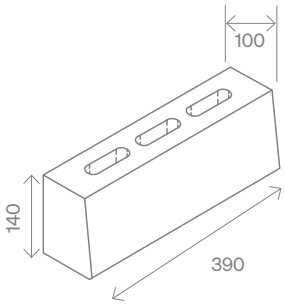
Ready to see what GB Latitude can do? Here's the specifications you'll need for your next project.

Block Dimensions

Standard Block



Window Block

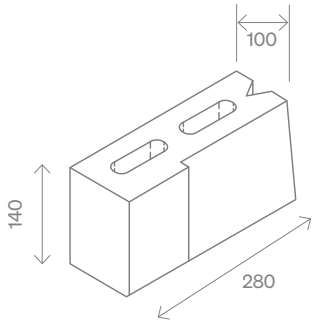


Specifications

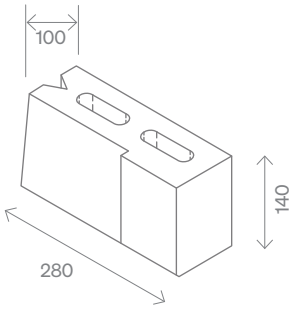
Average Weight / Unit (kg)	8.6
Units/m2	17
Pack size	180
f'uc (MPa)	15
Core Volume (%)	16
Durability Class: 40 cycle	Exposure Grade

Block Dimensions

Right Hand Internal Corner



Left Hand Internal Corner



Specifications

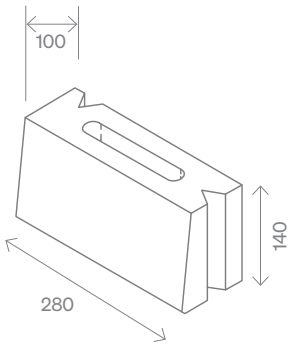
Average Weight / Unit (kg)	6.3
Units/m2	-
Pack size	240
f'uc (MPa)	>15
Core Volume (%)	15
Durability Class: 40 cycle	Exposure Grade

Technical Data

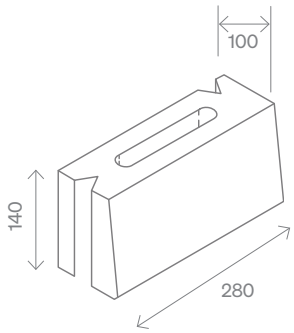
Ready to see what GB Latitude can do? Here's the specifications you'll need for your next project.

Block Dimensions

Right Hand External Corner



Left Hand External Corner



Specifications

Average Weight / Unit (kg)	6.3
Units/m2	-
Pack size	240
f'uc (MPa)	>15
Core Volume (%)	15
Durability Class: 40 cycle	Exposure Grade

Designing with GB Latitude

3

Design Considerations

Detailing

GB Masonry Latitude can be used as an external cladding material in a block veneer or a cavity wall.

The nominal course height is the nominal unit height plus the design mortar bed thickness. Designers should be aware of the masonry course dimension for optimal sill, head and wall heights, and likewise running dimensions for optimal wall lengths an opening widths.

GB Latitude shall be constructed with a DPC compliant to AS 2904 on a concrete slab or footing as per AS 3700.

Wall ties are used to secure the blocks to either the building frame or to another layer of masonry.

In general, wall ties must have 50mm embedment and 15mm cover to external surface of mortar. To achieve this with a 40 to 50mm cavity the maximum raking permitted is 5mm.

When face fixed ties are used, they are to be screw fixed. Alternatively, side fixed ties can be screw or nail fixed.

In a stretcher bonded block veneer wall or a cavity wall, wall ties must be installed at maximum 600mm centres both horizontally and vertically. In a stack bonded block veneer wall or a cavity wall, wall ties must be installed at maximum 450mm centres horizontally.

Wall Tie Requirements

In a stretcher bonded block veneer wall or cavity wall, when wall ties are placed at a vertical spacing of 600mm centres, the grade of wall ties in each wind class is dictated by their horizontal spacing as shown below.

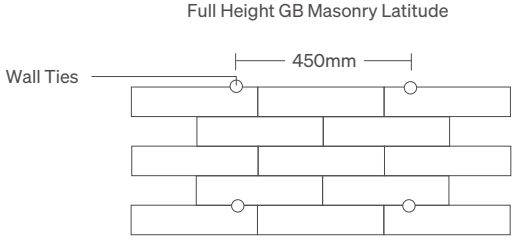
Table 2 - Wall Tie Spacing - 600mm Vertical Centres

	Maximum Horizontal Spacing (mm)					
	General Area			Within 1200mm of Corners		
Wind Class	300	450	600	300	450	600
N1	L	M	M	M	M	H
N2	L	M	M	M	H	H
N3	M	H	H	H	H	-
N4 / C1	H	H	H	H	-	-
N5 / C2	H	-	-	-	-	-
N6 / C3	H	-	-	-	-	-
C4	-	-	-	-	-	-

Note: "L" = Light Duty, "M" = Medium Duty, "H" = Heavy Duty, "-" = No Ties Suitable. Refer to Table 3.5 of AS3700 for mean tie strength for each duty rating.

Figure 3.1

Example showing bed course location for wall tiles placed at a vertical spacing of 600mm centres and a horizontal spacing of 450mm centres.



Wall ties should be placed every fourth course for the GB Masonry Latitude

Wall Tie Requirements

In a stretcher bonded block veneer wall or cavity wall, when wall ties are placed at a vertical spacing of 450mm centres, the grade of wall ties in each wind class is dictated by their horizontal spacing as shown below.

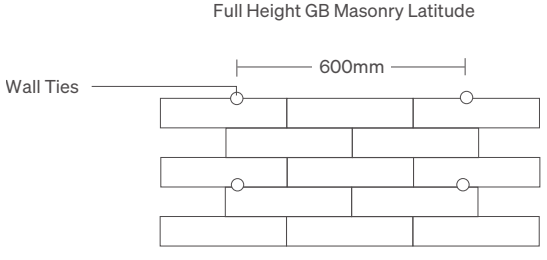
Table 3 - Wall Tie Spacing - 450mm Vertical Centres

	Maximum Horizontal Spacing (mm)					
	General Area			Within 1200mm of Corners		
Wind Class	300	450	600	300	450	600
N1	L	L	M	L	M	H
N2	L	M	M	M	M	H
N3	M	M	H	H	H	-
N4 / C1	M	H	H	H	-	-
N5 / C2	H	H	-	H	-	-
N6 / C3	H	-	-	-	-	-
C4	-	-	-	-	-	-

Note: "L" = Light Duty, "M" = Medium Duty, "H" = Heavy Duty, "-" = No Ties Suitable. Refer to Table 3.5 of AS3700 for mean tie strength for each duty rating.

Figure 4.1

Example showing bed course location for wall tiles placed at a vertical spacing of 450mm centres and a horizontal spacing of 600mm centres.



Wall ties should be placed every third course for the GB Masonry Latitude

For stack bond blockwork, the maximum horizontal spacing of wall ties is 450 mm. The grade of wall ties in each wind class region is dictated by their vertical spacing as shown below.

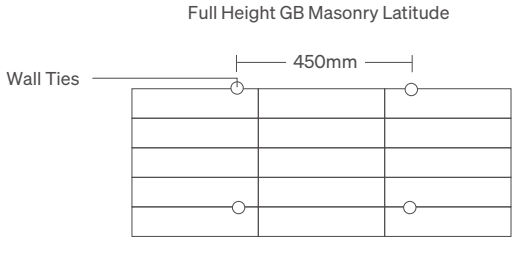
Table 4 - Wall Tie Spacing - For Stack Bond Blockwork at 450mm Horizontal Centres

	Wall Tie Vertical Spacing of 600mm		Wall Tie Vertical Spacing of 450mm	
Wind Class	**General Area**	**Within 1200mm of Corners**	**General Area**	**Within 1200mm of Corners**
N1	M	M	L	M
N2	M	H	M	M
N3	H	H	M	H
N4 / C1	H	-	H	H
N5 / C2	-	-	H	-
N6 / C3	-	-	-	-
C4	-	-	-	-

Note: "L" = Light Duty, "M" = Medium Duty, "H" = Heavy Duty, "-" = No Ties Suitable. Refer to Table 3.5 of AS3700 for mean tie strength for each duty rating.

Figure 5.1

Example showing bed course location for wall tiles placed at a vertical spacing of 600mm centres and a horizontal spacing of 450mm centres.



Wall ties should be placed every fourth course for the GB Masonry Latitude

Installing
GB Latitude

4

Installing GB Latitude

Laying GB Masonry Latitude

GB Masonry Latitude is to be constructed to AS 3700 and the following should be adhered to:

- GB Masonry Latitude blocks shall be fully bedded.
- Mortar shall comply with AS 3700 Table 11.1.
- Mortar bed joints should be 10mm +/- 2mm above and below the blocks. Perpendicular ends are butt joined with mortar filled V grooves between or can be laid with 10mm perp joint if desired.
- Masonry wall ties shall comply with AS 2699.1.
- Face fixed ties are to be screw fixed. Side fixed ties can be screw or nail fixed.
- Damp courses, weep holes, lintels should be installed in the same way as standard block and blockwork.
- During installation, use clean water and brush to promptly remove any fresh mortar that splashes onto the blockwork.

Mortar

GB Masonry Latitude blocks are recommended to be laid with anti-efflorescence polymer addition to the mortar. The ratio specified shall be to the manufacturer's specification.

Austral Masonry recommends the use of Mortex preblended mortar for best results.

Cleaning

Being a face quality product, care should be taken to ensure a minimal amount of mortar gets on the face of the blocks, and all the mortar haze should be thoroughly removed during the initial installation process.

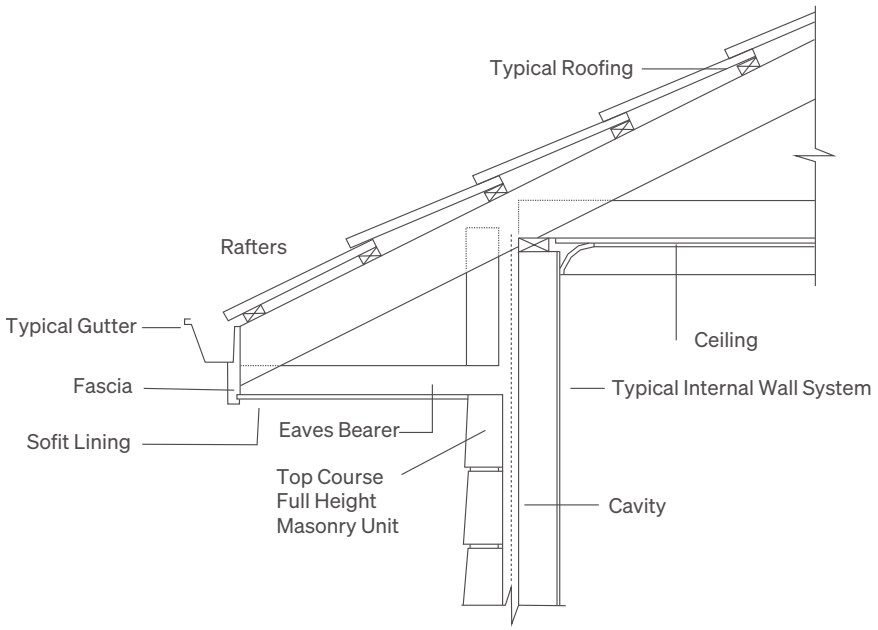
It is recommended that strong acids such as hydrochloric acid (HCl) are NOT used, as this could create colour variations in the block.

Sealing

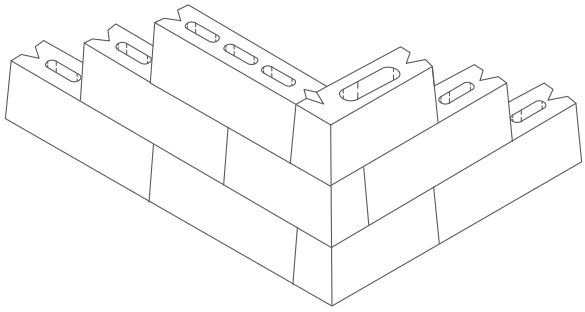
Applying a penetrating masonry sealer is crucial to ensuring GB Masonry Latitude blocks retain their high quality finish as well as ensuring it meets the required design life. Sealers are designed for use as a water repeller on masonry surfaces and will assist in the prevention of moss and mould build-up when used as a pre-seal or pre-grout treatment. This will greatly assist in the clean up of excess grout.

It also ensures that efflorescence ceases to propagate and appear on the surface of the blocks.

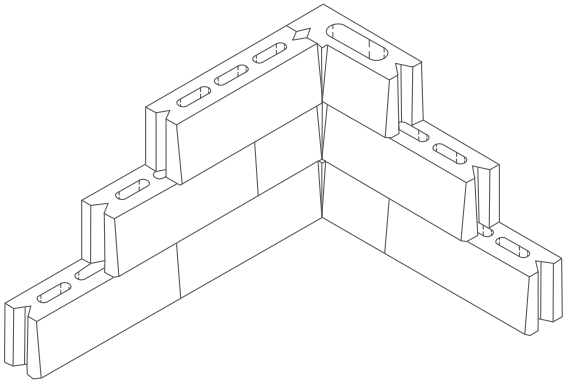
Figure 1.1 - Typical Eave Detail



External Corner



Internal Corner



Pouring mortar with added water content into the diamond formed where two blocks meet links to the two blocks together.

The mortar mix used can be adjusted to increase the strength of mortar and bond between the GB Latitude units.

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