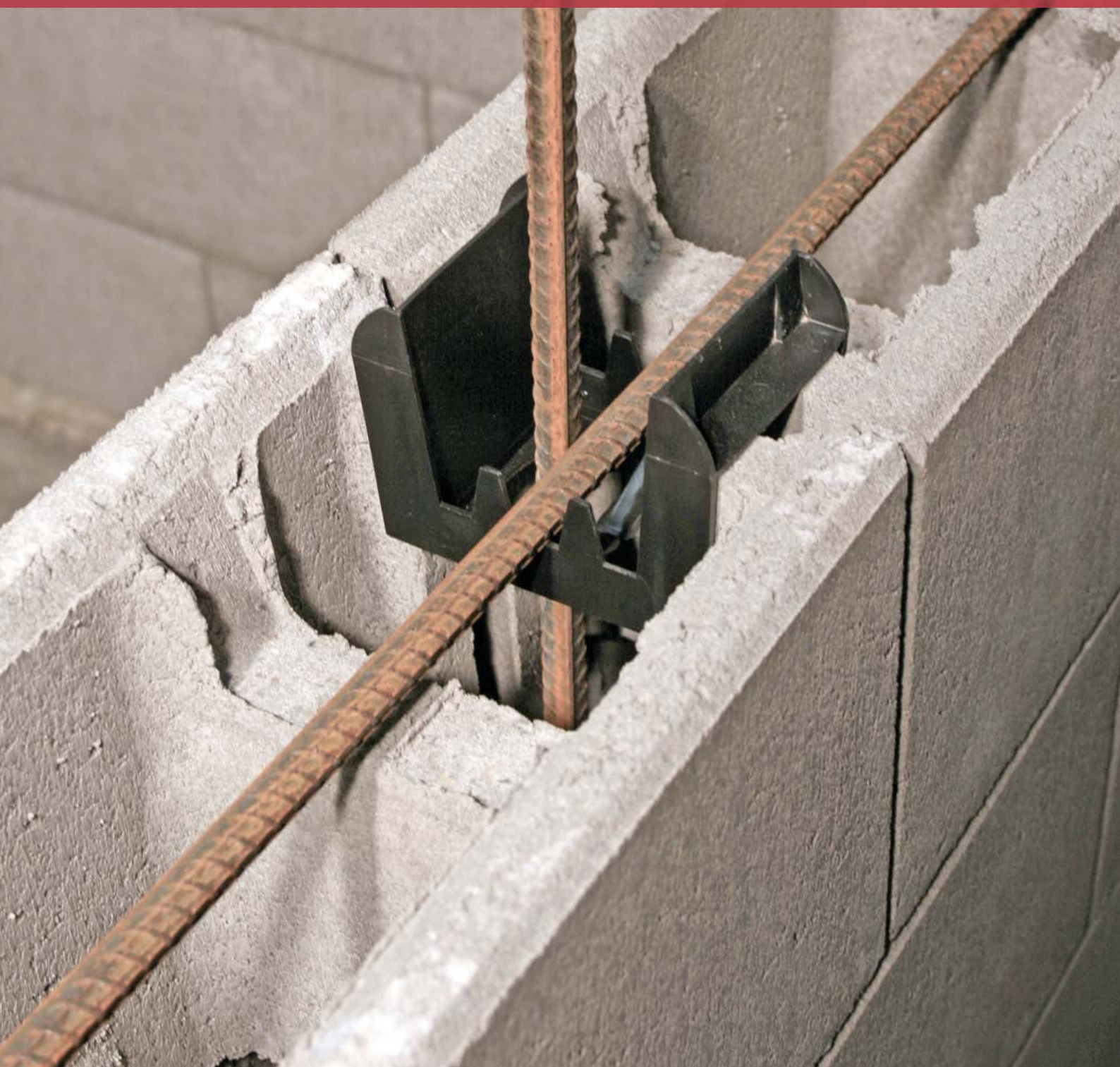


adbri MASONRY

Form Block®
VIC/SA



The Form Block® System

The Form Block® system utilises mortarless concrete block construction as formwork for reinforced concrete, offering considerable site efficiencies and reduced construction cost.

Form Block® is constructed in conventional stretcherbond pattern using a specially designed bridge that automatically locates the position of each block in consecutive courses. Steel reinforcing bars are also held in place by the bridge ensuring correct placement and coverage as specified by the engineer.

Form Block® can be used in accordance with the design requirements of the Concrete Structures code and allows engineers to design structural walls to satisfy earthquake and cyclonic wind loads.

A finished Form Block® wall takes on the appearance of conventional masonry blocks but significantly reduces mess on site because mortar is only required for the bottom course.

Form Block® is much faster to install than conventional masonry and allows construction to take place in all weather conditions. Faster construction minimises requirement for scaffolding and crane hire and allows projects to be completed ahead of time and below budget.

Applications

The Form Block® system is suited to a variety of commercial, industrial and domestic applications. For external walls and locations where ground moisture may be present it is recommended the external Form Block® face be sealed. Some typical applications include:

- Load Bearing Walls
- Lift and Stair Walls
- Alternative to Formwork
- Alternative to Tilt-Slab
- Alternative to Conventional Masonry
- Retaining Walls
- Canal Walls
- Basements
- Cool Rooms
- Fire Separation
- Acoustic Walls.



The Form Block® Components

The Form Block® system consists of 2 ranges - the **20 Series** which is 190mm wide and the **15 Series** which is 140mm wide. The internal supporting webs on the **standard blocks** are dish shaped to accommodate horizontal steel placement, whilst the corner and end blocks have webs that can be knocked out to accommodate horizontal steel placement.

Form Bridge™



Universal Form Bridge™
140mm



Form Bridge™
190mm



Corner Bridge
190mm

190mm



Standard Block
380mm x 200mm x 190mm



Universal End and Corner Block
380mm x 200mm x 190mm



Half End Block
190mm x 200mm x 190mm

140mm



Standard Block
400mm x 200mm x 140mm



Standard End Block
400mm x 200mm x 140mm



Half End Block
200mm x 200mm x 140mm

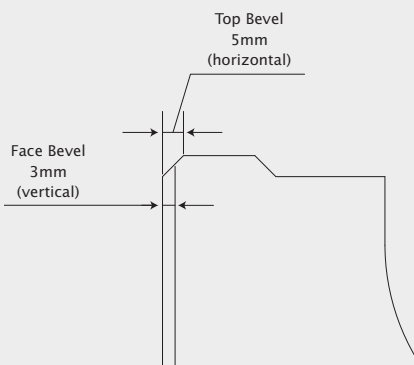
Form Bridge™

The Form Block Bridge™ system utilises three types of plastic bridges.

The 20 Series requires the use of a black bridge and a red corner bridge, whilst the 15 Series requires the use of a green universal bridge. All three types of bridges come with small tear off 'wedges' inside, to assist with horizontal alignment as required.

There is a 5mm chamfer at the top on both sides of the block and a 3mm vertical chamfer on all external corners.

Note: All Form Bridges are non-refundable and sold separately.

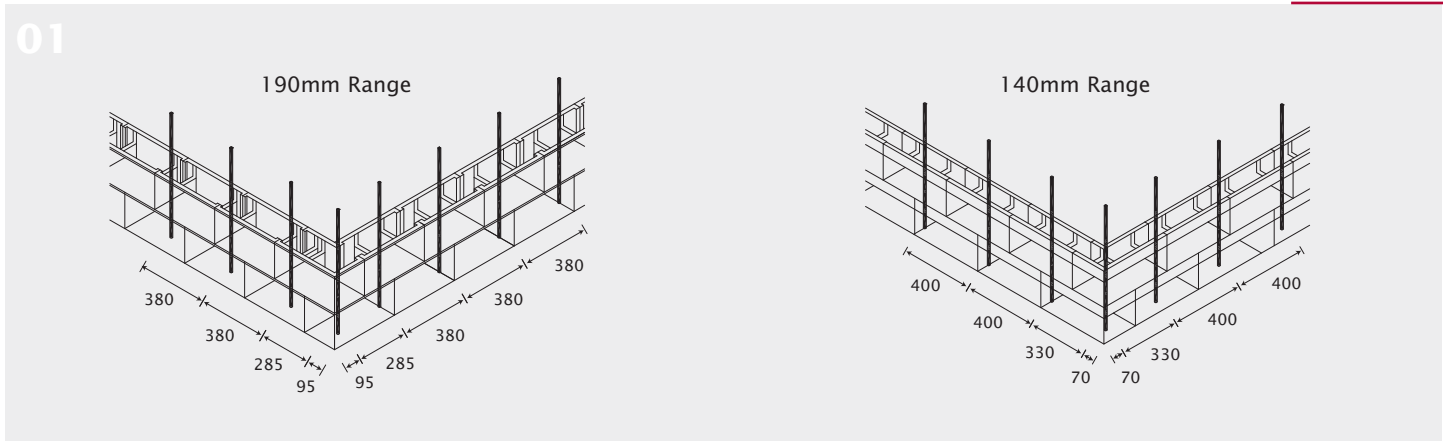


Left Hand End Corner Block
400mm x 190mm x 140mm x 200mm



Right Hand End Corner Block
400mm x 190mm x 140mm x 200mm

Wall Construction



01. Positioning of Starter Bars (see diagrams)
The positioning of the starter bars forms an integral part of a successful Form Block wall.

For the 190mm range (380mm long), the first starter bar should be located 95mm from the corner. The second starter bar should be located 285mm from the first so that it penetrates through the centre of the bridge on either the first or second course. Subsequent bars should be located at 380mm centers from the second bar.

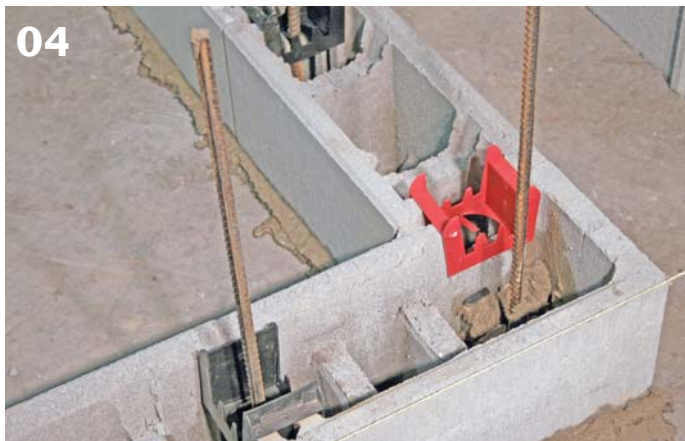
For the 140mm range (400mm long), the first starter bar should be located 70mm from the corner, the second 330mm from the first and subsequent bars at 400mm centers from the second.



02. Base Course
The base course is laid on a mortar bed to ensure line and level is established. Adequate time should be spent on the base course to ensure successful laying and alignment of subsequent courses.

03. Installation of Bridges
Form Bridge™ is a plastic aligning tool that is used to join two blocks together at the perpendicular ends of the blocks. Form Bridge™ also holds reinforcing steel accurately in position.

To insert Form Bridge™ squeeze the top together and push the bridge into place before releasing it. The standard 20 Series Form Bridge™ is black and is used to join standard Form Blocks® together and to join end blocks to standard blocks. The equivalent Form Bridge™ for the 15 Series is green. The corner Form Bridge™ for the 20 Series block is red (see Fig. 4) and has the vertical section removed which allows the installer to position the webs of the above blocks. The corner Form Bridge™ is used to join the return end of the corner blocks to standard blocks and half blocks to standard blocks.



04. Corner and End Detail
The Form Block® range includes dedicated Left and Right hand corners, Standard End and Half End blocks. In order to align the 20 Series Corners and Ends a dedicated Corner Bridge is used. The Corner Bridge is a Red colour and should be considered at the point of placing an order. The 15 Series utilises a green universal bridge.



05

05. Subsequent Courses

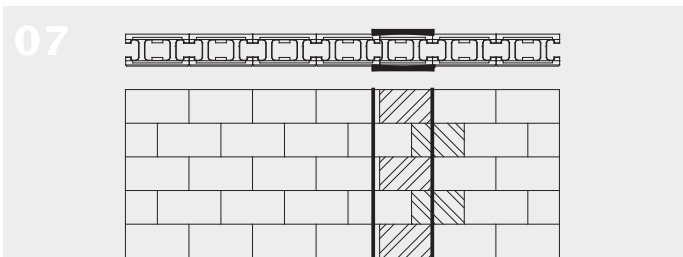
Mortar is not required above the first course of Form Block®. Simply place each course on top of the preceding courses in a stretcher bond pattern, allowing for the placement of the Form Bridge™ inside the block.



06

06. Horizontal Steel Placement

Horizontal reinforcing steel bars are easily positioned into one of the three permanent locations in the bridge. These locations keep the horizontal reinforcing steel bars exactly where specified by the engineer.



07

07. Cutting Form Blocks®

When reducing wall dimensions, simply cut the required block to length and bond as illustrated. Place the plastic bridges into the inserts of the block wherever possible to help the bonding. The steel reinforcement is then placed into the recesses provided in the bridges, locking the blocks in place laterally. Temporary support may be required to stop cut blocks moving whilst pouring the grout.

Note: Avoid using a cut Form Block closer than 2 blocks from the end as shown in above diagram). A bridge cannot be used on a cut Form Block®. Construction adhesive suitable for masonry products can be used for temporary fixing where the bridge cannot be used. Lay a small length of steel in every course across the cut blocks and brace over this area. If the cut block only has one centre web left, inspect the block to make sure that the remaining web is in good condition.

08. Grout Filling

Form Block® has large cores inside to allow for adequate flow of grout and ensuring complete coverage of reinforcing steel bars. As Form Block® requires no mortar above the first course, there are no mortar dags on the steel, allowing adequate flow of the grout and no chance of voids in the wall.

The grout must be sufficiently fluid to fill all the voids, bond together adjacent masonry units, bond steel reinforcement into the cores, and to unify the wall into a single structure. It is therefore important that the cores are filled with grout which meets the specifications listed in the following section.



08

	1m ³ of grout will fill approx	No. of blocks per m ³ of grout
20 SERIES	10.6m ² of wall	140
15 SERIES	14.5m ² of wall	180

Grout Filling & Specifications



Grout Filling

Block filling grout is designed to be sufficiently fluid to fill all the voids, bond together adjacent masonry units, bond steel reinforcement into the cores, and to unify the wall into a single structure. It is therefore important that the cores are filled with correctly designed grout, which meets the following specifications:

Grout Specifications

The grout specifications are performance based. Adbri Masonry recommends HyTec Industries Pty. Ltd. to determine an appropriate mix design to match the performance. The details are as follows:

01. Flow Characteristics



The grout shall have a minimum spread of 600mm (average diameter), maintained for the period of the pour.

- Notes:
- A 'spread' is specified rather than a 'slump' because it is a more appropriate measure of the flow properties for this type of grout. Your concrete supplier should be able to organise the measuring of the spread.
 - Do not add extra water to retemper the grout, unless the grout supplier authorises it.

02. Strength Grade

For internal applications the minimum strength grade of the grout should be 20MPa.

For external applications in near-coastal zones (between 1km and 50km from coast), the minimum strength grade should be 25MPa.

For external applications less than 1km from the coast, the minimum strength grade should be 32MPa.

For specialist applications or more severe environments an engineer should be consulted.

03. Other

Maximum aggregate size shall be **10mm** (for 190mm block) and **7mm** (for 140mm block). The grout shall be free of contaminating lumps **larger than 15mm** (this may require a screen over the pump hopper).

The grout shall be **smooth, free-flowing and cohesive.**

Notes:

- A 'cohesive' mix is one which has no tendency to segregate when pumped down into the Form Block® cavity. The concrete supplier should use a high-quality superplasticiser to achieve the flow characteristics required.

- Due to hydrostatic pressure build up by the fluid core-fill grout, a maximum filling height between pours of 1.8m (i.e. 9 courses), is strongly recommended.



Fire Resistance

Once Form Block® is filled with concrete it essentially becomes a solid reinforced concrete wall, allowing it to be assessed for Generic Fire Resistance by the appropriate code.

20 Series Form Block®

Structural Adequacy and Integrity:
Insulation:

As determined in accordance with Section 5.7 of AS3600, Concrete Structures.
240 Minutes.

15 Series Form Block®

Structural Adequacy and Integrity:
Insulation:

As determined in accordance with Section 5.7 of AS3600, Concrete Structures.
120 Minutes - or 180 minutes (with 10mm render on both sides or 10mm render on the side away from the fire).

Sound Resistance

It is our considered opinion that Form Block® construction will be equal to or better in sound resistance performance to it's equivalent in thickness and extent of grouting in the conventional mortared concrete masonry construction. Acoustic testing by CSIRO has determined a bare wall 140mm Form Block® wall achieves an RW of 52. Further information can be provided upon request.



The Form Block® system is manufactured under licence by Adbri Masonry Pty Ltd.

Trade marks:

Form Block® and Form Block Bridge™ are registered trademarks of Global Building Systems Pty Ltd.

Important Notice

PLEASE READ PRIOR TO COMMENCEMENT

1. Ensure ALL PRODUCT is INSPECTED for COLOUR, QUANTITY & STYLE prior to INSTALLATION. (Colour and texture of masonry products may vary from; batch to batch, product groups, brochures and display samples due to raw material characteristics).
2. Product should be selected from all pallets to ensure even blending.
3. Damaged or defective products must be reported to the place of purchase within 3 days of delivery.
4. Claims for replacement product must be sighted and authorized by a Adbri Masonry Brick representative.
5. The liability of Adbri Masonry Pty Ltd is strictly limited to the supply and delivery of replacement product to the original site location only.

ONCE PRODUCT HAS BEEN INSTALLED NO RESPOSIBLITY OR CLAIMS WILL BE ACKNOWLEDGED.
THE PRODUCT WILL BE DEEMED ACCEPTED.

Note: All Form Block walls should be designed by a qualified engineer. This information was current at the time of printing and replaces all previous Form Block brochures. It is subject to change without notice.

FREE PALLET COLLECTION SERVICE

FREECALL: 1800 674 961

OR DROP PALLETS BACK TO PLACE OF PURCHASE

Please DO NOT dispose of Adbri Masonry pallets in any other way.

Adbri Masonry Pallets always remain the property of C&M Brick Pty Ltd.

Pallets will be collected within 3 days in most cases.

Pallets must be empty and stacked in a safe and accessible area during daylight hours.

PLEASE CONTACT US FOR MORE INFORMATION



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LANDSCAPING AND BUILDING
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