The ideal walling system for saving time and money
The Versaloc® Walling System is a new Dry Stack walling system from Midland Brick which creates significant productivity gains, by allowing units to be stacked together without the use of mortar.

This innovative patent pending system is the output of years of research and design work dedicated to creating a revolutionary Dry Stack walling system. The Versaloc® system has many advantages over traditional block work, other Dry Stack products, tilt panels and other walling systems.

It promotes rapid construction times with minimal bracing and formwork required and is adaptable for use in both large scale commercial construction projects as well as residential developments that require flexibility and versatility in a walling solution. Genuine time savings translate into bottom line cost savings and more profit for your business.

**Advantages**

- Dry Stack system
- Rapid construction
- No formwork needed on first course
- Construct during inclement conditions
- Unique interlocking design
- Significantly reduces mess on site
- Detailed bevel provides shadow lines
- Eliminates the need for termite control products
- Ready to build
- Maximum flow for improved core fill
- Increased unit to unit interlock
- No need to hose out cores

**Applications**

- Soil retaining walls
- Basement walls and exterior walls*
- Swimming pool walls*
- Constructions where a cyclone rating is required*
- High strength load bearing walls
- Multistorey commercial and residential construction
- Common dividing walls and boundary walls*
- Underwater stormwater detention tanks

*External Versaloc® walls need to be weatherproofed.

**WHAT ARE SOME KEY BENEFITS OF THE VERSALOC® WALLING SYSTEM**

“If a design specifies Versaloc® and reflects the modularised units in the dimensional layout, then block wastage is greatly reduced, not to mention the elimination of 90% of sundries.”

**CAN YOU DESCRIBE VERSALOC® IN THREE WORDS?**

‘Kid’s blocks – child’s play’

Jerry Masaryk Pyramid Group (Aust) Pty Ltd
Features

- Interlocking tongue and groove joints
- Self locating top lugs
- Clean wall with shadow lines
Versaloc® at work

Time saving
Versaloc® walling units feature eight self locating lugs on the top of each unit. When the units are stacked on top of each other, the four lugs on each side of the unit will interlock with the bottom of each of the units above. These lugs remove the need for mortar which reduces materials required on site and delivers significant time savings for installers. There is also a tongue and groove joint on the end of each unit which improves unit to unit interlock and provides a number of benefits such as greater wall stability during the laying, reinforcing and core filling stages of construction.

Uncompromised quality
Quality is not compromised for productivity gains in any way. The units achieve a 20MPa rating and when reinforced and core filled with 20MPa concrete, completed 190mm walls achieve a Wall Grouted Compressive Strength (f’mg) of 10.2MPa. This complies with the requirement of the BCA as well as the ratings achieved by competitive products.

Versaloc® vs traditional mortared unitwork

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Versaloc® Walling System</th>
<th>Traditional Mortared Unitwork</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortar</td>
<td>Bottom course only and top course as necessary</td>
<td>Required for all courses</td>
</tr>
<tr>
<td>Labour (units laid per day)*</td>
<td>400</td>
<td>200</td>
</tr>
<tr>
<td>Steel reinforcement</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Corefill and pump</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Formwork for cleanout</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Bracing</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Estimate only – requirements will vary depending upon application.

The Versaloc® Walling System is designed in accordance with the Concrete Structures Code AS3600 and is suitable for all forms of unit work in commercial, industrial and residential construction.

Versaloc® Walling System products are tested in a N.A.T.A. Accredited Testing Laboratory.

Examples

Diagram 1
Multistorey Residential Apartments Case Study

1. Project upgraded to Versaloc®, after initial foundation was installed.

2. Steel framing created service channels for this internal wall before it was finished with plasterboard.

3. Unique self locating lugs, tongue and groove joints and speciality corner units make corner construction quicker and easier than ever before.
Components of the Versaloc® Walling System

The Versaloc® Walling System features a number of specifically designed units to reduce the need for cutting on site making wall construction even quicker.

<table>
<thead>
<tr>
<th>Product</th>
<th>FRL Insulation Minutes Rating*</th>
<th>Unit characteristic unconfined compressive strength</th>
<th>Grouted masonry characteristic unconfined compressive strength</th>
<th>Average weight (standard unit)</th>
<th>Average no. sq/m (standard unit)</th>
<th>Average no. tonne (standard unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Versaloc® 150 series</td>
<td>120</td>
<td>20MPa</td>
<td>8.5MPa</td>
<td>14.9kg</td>
<td>12.5</td>
<td>67.1</td>
</tr>
<tr>
<td>Versaloc® 200 series</td>
<td>240</td>
<td>20MPa</td>
<td>10.2MPa</td>
<td>16.2kg</td>
<td>12.5</td>
<td>61.7</td>
</tr>
</tbody>
</table>

*Fully-Grouted

Finishing Options

All external Versaloc® walls need to be weatherproofed. This can be achieved by using one of the following wall finish options; however, please refer to the Australian Standards for further information about suitable weather-resistant coatings.

PAINT

Versaloc® walls are weatherproofed by applying 3 coats of acrylic paint to the walls surface. With an endless selection of paint colours available, painting is a simple option for applying an aesthetic finish to Versaloc® walls.

RENDER AND PAINT

Rendering and painting will also ensure Versaloc® walls are weatherproofed. Painting provides an unlimited array of colour options for finished walls.

CLEAR SEALING

Face walls can be weatherproofed by applying a clear sealer such as Bostik Aquashield SB40 to Versaloc® walls. This cost effective option means the natural shadow lines created by the bevels on each unit are maintained for a premium wall finish. Walls can also be waterproofed by the use of an appropriate additive to the core fill grout.

Note: For Versaloc® Walling Systems used as a retaining wall, walls should be “tanked” using various proprietary tanking methods.

Concrete masonry products will have colour variations due to natural variations in the raw materials used in the production process. These changes are natural and therefore not considered defects.
How to build with Versaloc®

Preliminary

• Excavate to a satisfactory foundation.
• Arrange for supply of materials to the specifications given.

Base and starter bars

• Form the base to the required dimensions and levels as shown in details.
• Place the base reinforcement as shown in Diagram 1.
• Arrange for supply of materials to the specifications given.
• During grouting of Versaloc® walls, it is recommended that bracing be used to support the wall.

Block laying

• Block laying procedure follows that of the normal practice but without the need to mortar the blocks together. It is of critical importance that the first layer of blocks be mortared to the concrete base in the normal way to provide line and level for the remaining block courses. Note: Excess mortar within the core should be removed at this stage.
• The blocks are laid with the shallow recessed cross webs at the top. During construction, it is important to keep debris off the bed joint plane; otherwise the wall may begin to develop vertical and/or horizontal curvature. In addition, as a unit is positioned, some small particles of concrete may be rubbed off the units and fall on the bed joint surface. Usually the force of placing the block will crush these particles. Otherwise, rubbing the block back and forth along the joint will wear down the material. If a joint is visibly open, the unit should be removed and the debris removed.

Bracing

• During grouting of Versaloc® walls, it is recommended that suitable bracing be used to support the wall.
• Temporary bracing of partially built Versaloc® walls is also recommended and especially during windy conditions.
• Refer to note under Corefill Specifications Section 3 – Other for corefilling height.

Corefilling

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

The corefill 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 corefill which meets the specifications listed in the following section.

Corefill Specifications

The corefill specifications are performance based. It is recommended that the corefill supplier determine an appropriate mix design to meet the following performance requirements. The performance details are as follows:

1. FLOW CHARACTERISTICS

<table>
<thead>
<tr>
<th>Product</th>
<th>1m² of grout will fill approx</th>
<th>Approx No. of blocks per m² of corefill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Versaloc® 150 series</td>
<td>13.8m² of wall</td>
<td>175</td>
</tr>
<tr>
<td>Versaloc® 200 series</td>
<td>10.2m² of wall</td>
<td>130</td>
</tr>
</tbody>
</table>

2. 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 the 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.

3. OTHER

Maximum aggregate size shall be 10mm (for 190mm block) and 7mm (for 150mm 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.

Note: A ‘cohesive’ mix is one which has no tendency to segregate when pumped down into the Versaloc® 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) for the 200 series, and 1.2m (i.e. 6 courses) for the 150 series is strongly recommended to ensure no voids are left in the wall.
For more information about Midland Brick

Call us on 13 15 40
Visit our website at midlandbrick.com.au
Drop into a Midland Brick Selection Centre or Reseller

Selection Centres

Jandakot
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Joondalup
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Middle Swan
102 Great Northern Hwy

Osborne Park
8 Parkland Road

Subiaco
Home Base, 55 Salvado Rd

Authorised Regional Resellers

Bunbury
Beyond Bricks
11 Denning Road
(08) 9721 9777

Mandurah
Beyond Bricks
4 Rafferty Close
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Dongara
Marsdens Transport
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Esperance
Star Transport
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Exmouth
Exmouth Hardware
& Building Supplies
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Geraldton
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Jenron Bay
RD Transport
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Kalbarri
Kalbarri Carriers
(08) 9937 1500

Kalgoorlie
City Building Supplies
(08) 9091 4515

Katanning
Katanning Hardware
(08) 9621 1411

Lake Grace
Nambec Nominees
(08) 9865 1151, 0427 652 151

Lancelin
Lancelin Transport
(08) 9655 1827,
0407 386 548

Lancelin Trade & Rural
(08) 9655 2198

Mandurah
Beyond Bricks
(08) 9535 5030

Manjimup
Cutts Transport Pty Ltd
(08) 9777 0888

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Prosmore Holdings
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0418 924 591

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SX Hardware & News
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Wagin
Alexander Galt & Co
(08) 9861 1067

Wongan Hills
Overland Freight
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York
York Landscape Supplies
(08) 9641 2300

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