



Stone by Design



Supreme Manufacturers of High Quality Cast Stone

STANDARD PRODUCT GUIDE



Stone by Design LTD

Supreme Manufacturers of High Quality Cast Stone Products

Welcome to Stone by Design.

Stone by Design is a precast manufacturer of distinction. We offer a complete service from start, to finish providing supreme quality cast stone products across two different disciplines, Wet Cast and GRC cast stone products.



We only use quality natural materials in our Wet Cast and GRC Stone to ensure a supreme quality finished product, which meets the very highest of standards BS 1217 and BS 8110, which has been superseded by EN 1992 'Cast stone - Specification' Standard and UKCSA Specification and BS 1170 part 5.

Stone by Design offer a standard range of supreme quality stones, but we have the facilities in-house using our specialist mould shop to create any mould required irrespective of the design complexity.



We at Stone by Design believe strongly in providing excellent customer service, highly competitive pricing and fast lead times to meet even the most demanding of budgets and timescale's. We can guarantee your job will be finalised within budget and to deadline.

Stone by Design's products are available in a range of four standard colours; Terra Cotta, Bath, Light Bath and Portland. However, we have the experience and knowledge to match existing colours on site and can produce a wide range of colours to suit and add distinction to any building project and client requirements.

Highly Skilled Professionals in Cast Stone Products

Contact us at Stone by Design on **01623 442 095** to explore how we can accomplish your desired



Product Descriptions

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Our Standard Colour Range

Below are our standard colour ranges, Portland, Lichen, Light Bath and Bath.

Please note that; Premium and Bespoke colours are available on request.

Please contact us for more information.

Portland



Lichen



Light Bath

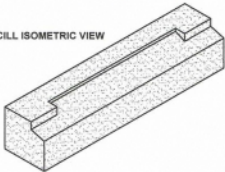
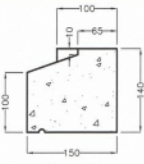
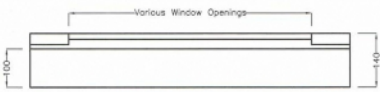
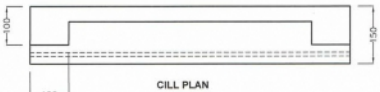



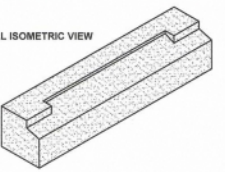
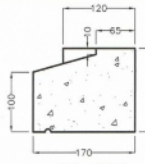



Bath

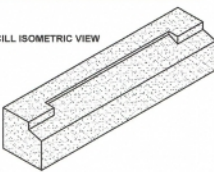
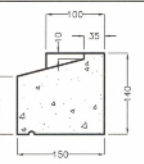
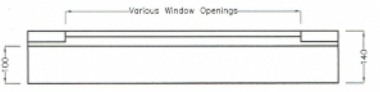
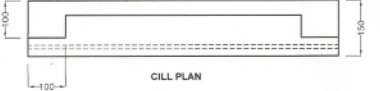



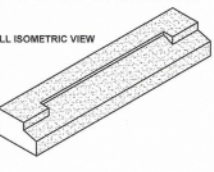
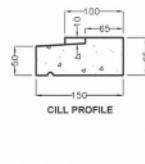
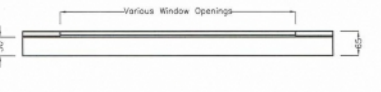
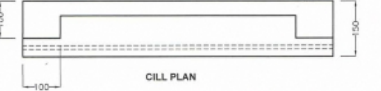

Please bare in mind that printed images, cannot expressively display colour accuracy effectively, you are advised to request samples, or visit our site before making a final selection.

Window Cills

<p>Description: Standard Stooled Cill</p> <p>A selection of various window opening sizes are Available from standard moulds. Bespoke sizes can be produced on request. All sizes shown are in mm.</p>	
<p>CILL ISOMETRIC VIEW</p> 	<p>CILL PROFILE</p> 
<p>Various Window Openings</p> <p>CILL ELEVATION</p> 	
<p>CILL PLAN</p> 	
<p>Technical Sheet SBD/C1</p>	 <p>Stone by Design Approved Manufacturer of High Quality Cast Stone 100% British Manufactured and Produced in the UK 01273 822222 www.stonebydesign.co.uk</p>

<p>Description: Standard Stooled Cill</p> <p>A selection of various window opening sizes are Available from standard moulds. Bespoke sizes can be produced on request. All sizes shown are in mm.</p>	
<p>CILL ISOMETRIC VIEW</p> 	<p>CILL PROFILE</p> 
<p>Various Window Openings</p> <p>CILL ELEVATION</p> 	
<p>CILL PLAN</p> 	
<p>Technical Sheet SBD/C2</p>	 <p>Stone by Design Approved Manufacturer of High Quality Cast Stone 100% British Manufactured and Produced in the UK 01273 822222 www.stonebydesign.co.uk</p>

<p>Description: Standard Stooled Cill</p> <p>A selection of various window opening sizes are Available from standard moulds. Bespoke sizes can be produced on request. All sizes shown are in mm.</p>	
<p>CILL ISOMETRIC VIEW</p> 	<p>CILL PROFILE</p> 
<p>Various Window Openings</p> <p>CILL ELEVATION</p> 	
<p>CILL PLAN</p> 	
<p>Technical Sheet SBD/C3</p>	 <p>Stone by Design Approved Manufacturer of High Quality Cast Stone 100% British Manufactured and Produced in the UK 01273 822222 www.stonebydesign.co.uk</p>

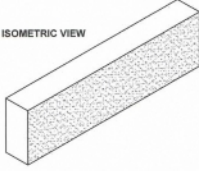
<p>Description: Standard Stooled Cill</p> <p>A selection of various window opening sizes are Available from standard moulds. Bespoke sizes can be produced on request. All sizes shown are in mm.</p>	
<p>CILL ISOMETRIC VIEW</p> 	<p>CILL PROFILE</p> 
<p>Various Window Openings</p> <p>CILL ELEVATION</p> 	
<p>CILL PLAN</p> 	
<p>Technical Sheet SBD/C4</p>	 <p>Stone by Design Approved Manufacturer of High Quality Cast Stone 100% British Manufactured and Produced in the UK 01273 822222 www.stonebydesign.co.uk</p>

Decorative Window Heads

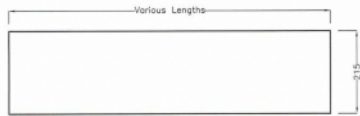
Description: Plain Heads

Heads can be produced from standard moulds up to 1400mm in length.
Other Bespoke lengths can be produced upon request.
All sizes shown are in MM.

HEAD ISOMETRIC VIEW



HEAD PROFILE



HEAD ELEVATION



HEAD PLAN

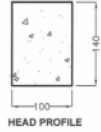
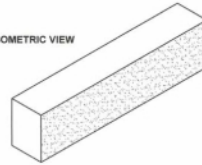
Technical Sheet
SBD/DH1



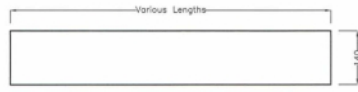
Description: Plain Heads

Heads can be produced from standard moulds up to 1200mm in length.
Other Bespoke lengths can be produced upon request.
All sizes shown are in MM.

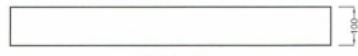
HEAD ISOMETRIC VIEW



HEAD PROFILE



HEAD ELEVATION



HEAD PLAN

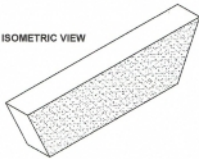
Technical Sheet
SBD/DH2



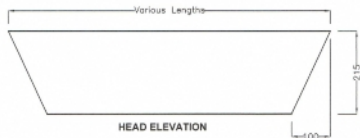
Description: Splayed Heads

Heads can be produced from standard moulds up to 1400mm in length.
Other Bespoke lengths can be produced upon request.
All sizes shown are in MM.

HEAD ISOMETRIC VIEW



HEAD PROFILE



HEAD ELEVATION



HEAD PLAN

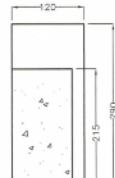
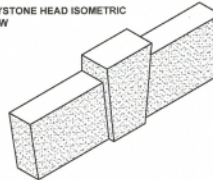
Technical Sheet
SBD/DH4



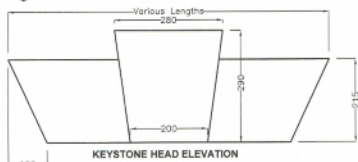
Description: Splayed Heads with Keystone

Heads can be produced from standard moulds up to 1400mm in length.
Other Bespoke lengths can be produced upon request.
All sizes shown are in MM.

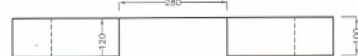
KEYSTONE HEAD ISOMETRIC VIEW



HEAD PROFILE



KEYSTONE HEAD ELEVATION



KEYSTONE HEAD PLAN

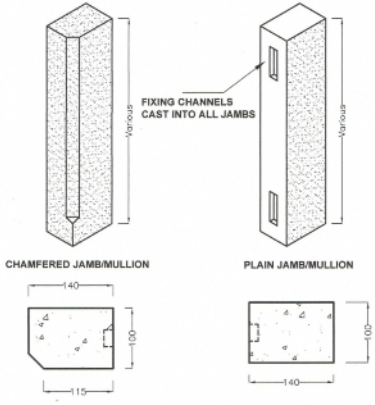
Technical Sheet
SBD/DH5



Window & Door Surrounds

Description: Door & Window Surrounds

Window Jambes & Mullions can be produced using standard moulds in standard sizes. Other sizes can be produced upon request. All sizes shown are in MM.



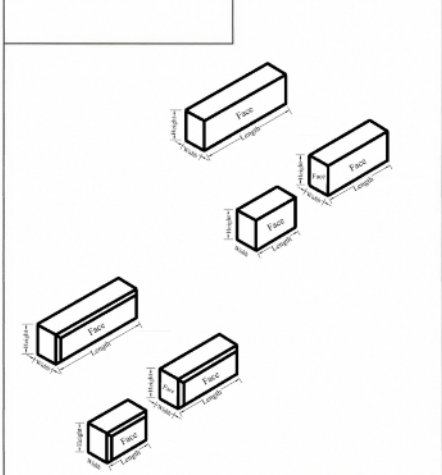
Technical Sheet
SBD/M1-J1



Quoins & Ashlar Blocks

Description: Ashlar Blocks & Chamfered Ashlar Blocks

Ashlar Blocks can be produced from any size required.



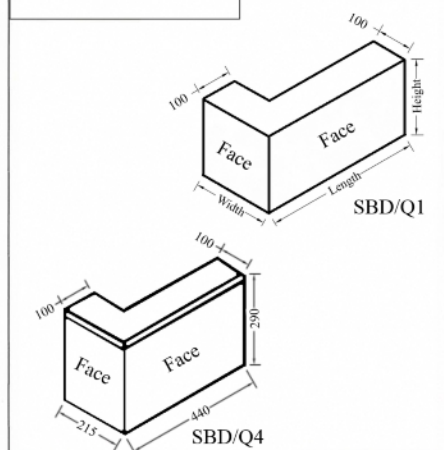
Technical Sheet
SBD/A1-A5



Description: Quoins & Chamfered Quoins

Quoins can be produced from any size required.

All sizes shown are in MM.



Technical Sheet
SBD/Q1-Q4



Coping Stones

<p>Description: Coping Stones</p> <p>Coping Stones are usually 600mm in length. Various Other sizes can be produced upon request. All sizes shown are in MM.</p>	
<p>Coping FC1/A Profile: 75mm height, 300mm length, 50mm depth.</p> <p>Coping TW1/A Profile: 75mm height, 300mm length, 50mm depth.</p> <p>Coping FC1/B Profile: 75mm height, 375mm length, 50mm depth.</p> <p>Coping TW1/B Profile: 75mm height, 375mm length, 50mm depth.</p>	
<p>Technical Sheet SBD/TW1-FC1</p>	<p>Stone by Design Superior Manufacturers of High Quality Cast Stone 1401 S. 10th Street, Suite 100, Lincoln, NE 68502 Phone: 402.478.8888 www.stonebydesign.com</p>

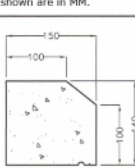
<p>Description: Coping Stones</p> <p>Coping Stones are usually 600mm in length. Various Other sizes can be produced upon request. All sizes shown are in MM.</p>	
<p>Coping MC1/A Profile: 86mm height, 462mm length, 108mm depth.</p> <p>Coping MC1/B Profile: 86mm height, 387mm length, 108mm depth.</p> <p>Coping MC1/C Profile: 86mm height, 317mm length, 108mm depth.</p>	
<p>Technical Sheet SBD/MC1</p>	<p>Stone by Design Superior Manufacturers of High Quality Cast Stone 1401 S. 10th Street, Suite 100, Lincoln, NE 68502 Phone: 402.478.8888 www.stonebydesign.com</p>



Plinth & String Course

Description: String Courses

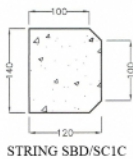
String courses are generally 600mm in length.
Other Bespoke lengths can be produced upon request.
All sizes shown are in MM.



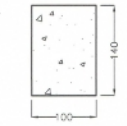
STRING SBD/SC1A



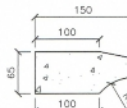
STRING SBD/SC1B



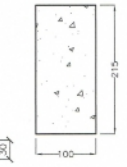
STRING SBD/SC1C



STRING SBD/SC1D



STRING SBD/SC1F



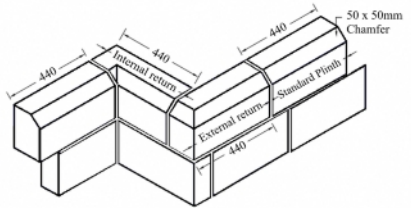
STRING SBD/SC1E

Technical Sheet
SBD/SC1



Description: Plinth Courses

Standard Plinth comes with 50mm x 50mm chamfer in set lengths.
The bed width is 150mm thick, which allows for 100mm bed for brickwork or block work above the plinth. All sizes shown are in MM.



Technical Sheet
SBD/PL1



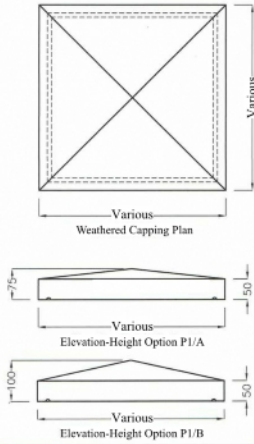




Pier Caps & Spheres

Description: Weathered Capping

Pier Caps are supplied to suit individual pier dimensions, usually allowing for a 50mm overhang. Bespoke designs can be made on request. All sizes shown are in MM.

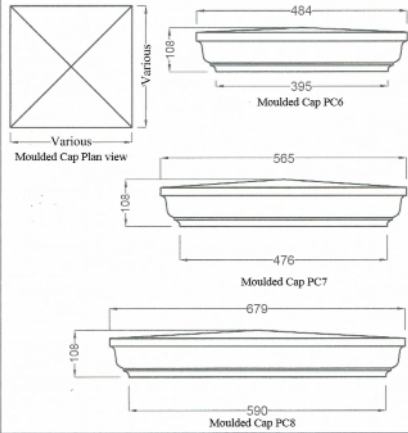


Technical Sheet
SBD/P1



Description: Moulded Pier Caps

Pier Caps are supplied to suit individual pier dimensions, usually allowing for a 50mm overhang. Bespoke designs can be made on request. All sizes shown are in MM.

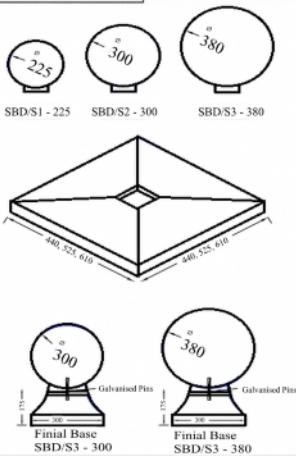


Technical Sheet
SBD/PC6



Description: Spheres & Finials with Bases

Sphere's and Finials with Bases are supplied to suit individual pier dimensions. Bespoke designs can be made on request. All sizes shown are in MM.



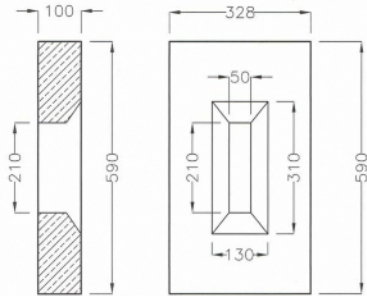
Technical Sheet
SBD/S1-4



Gable Vents

Description: Gable Vent (Open)

Standard range of Gable Vents
Other Bespoke lengths can be produced
upon request.
All sizes shown are in MM.



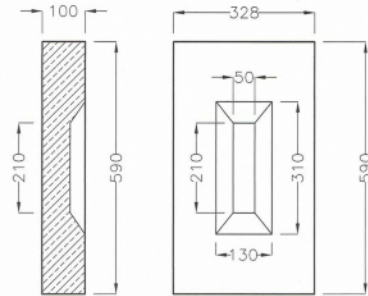
Gable Vent Elevation and Section

Technical Sheet
SBD/GV1



Description: Gable Vent (Closed)

Standard range of Gable Vents
Other Bespoke lengths can be produced
upon request.
All sizes shown are in MM.



Gable Vent Elevation and Section

Technical Sheet
SBD/GV1A



Name, Date & Number Stones

Description: Name and Date Stones

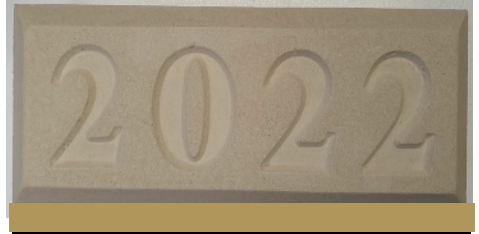
Other Bespoke sizes and requirements can be produced upon request. All sizes shown are in MM.



Name Stone SBD/DS1



Date Stone SBD/DS2

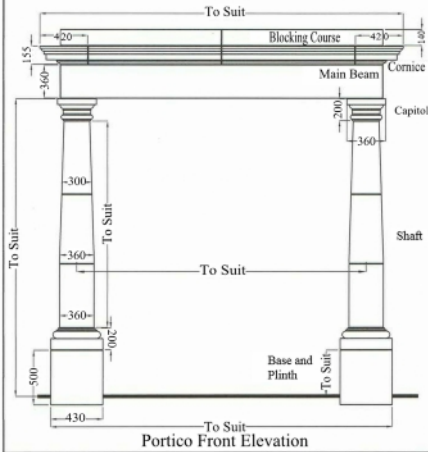


Technical Sheet
SBD/DS1-2



Description: Portico

All Porticos are designed to measure to site specifications.
All sizes shown are in MM.

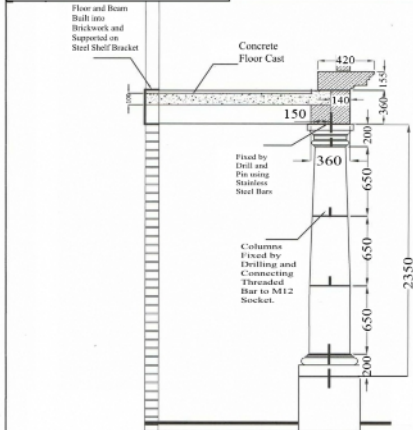


Technical Sheet
SBD/PT1



Description: Portico-Fixing Section

All Porticos are designed to measure to site specifications.
All sizes shown are in MM.



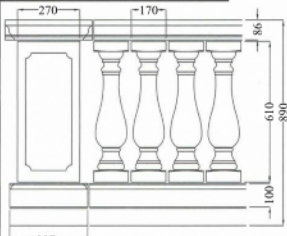
Technical Sheet
SBD/PT2



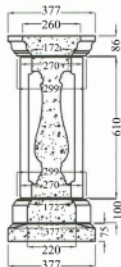
Balustrade

Description: Balustrade

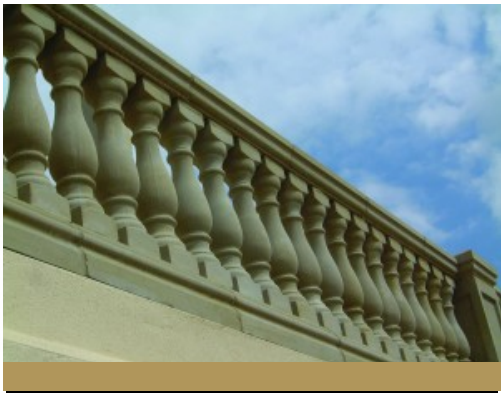
Other Bespoke lengths can be produced upon request.
All sizes shown are in MM.



Balustrade Elevation



Balustrade Section



Technical Sheet
SBD/B1



Technical Information

Our Standards:

Stone by Design LTD's Architectural Cast Stone meets the very highest of standards BS 1217 and BS 8110 'Cast stone - Specification' Standard and UKCSA Specification. BS 8110 was superseded by EN 1992.

Cement Efflorescence:

As with all reconstructed stone cement-based products, the temporary phenomenon known as efflorescence is likely to occur. It sparkles. It's white, sometimes with a greyish tint. It flakes off the surface and is present only on the surface. It's a crystalline deposit of salts often seen on the surface of concrete, brick, stucco or natural stone surfaces. It occurs when water leaves behind salt deposits and is present on or in the masonry surface.

Efflorescence is in no way damaging to the product. This effect reduces over a period of time with natural weathering.

Manufacturing Tolerances:

Dimensional tolerances permitted by BS 1217: 1997

MANUFACTURING TOLERANCES

Dimensional tolerances permitted by BS 1217: 1997

Dimension (mm)	Tolerance (mm)
Up to 600	+/- 2
601 to 1000	+/- 3
1001 to 2500	+/- 4
2501 to 4000	+/- 5
Over 4000	+/- 6

NB: All units of over 1500 in length will be supplied in two or more pieces for ease of handling.

Installation Guidelines

Stooled Cills

It is good building practice to follow the recommendations stated in BS8000 Part 3 : 2001, IE that only the ends and Cill joints of Stooled Cills should be bedded on mortar during construction. The joint below should be left open and pointed up after the brickwork is finished.

Decorative Heads

All the Heads manufactured by Stone by Design LTD are non structural and should be used in conjunction with a suitable load bearing lintel. Load bearing lintels are normally used below the Decorative Head to support the Head itself and the entire brickwork load above. To reduce the risk of cracking, Decorative Heads should be fully bedded down on mortar along the entire length of the load bearing lintel.

Copings

It is good practice that all Coping units have drip grooves to the underside, with the drip point being a minimum of 30mm away from the face of the wall. A flexible dpc will be required below a Coping unit to prevent the downward transfer of moisture into the wall. This dpc should be bedded on both sides so that it is sandwiched in the joint and projecting 5mm beyond each face of the wall below.

In parapet walls, a stepped cavity tray will be required which should fall a minimum of 150mm across the cavity. Weep holes, 75mm high are required at a maximum of 1 metre centres.

WET CAST STONE	
TECHNICAL SPECIFICATION	
STRENGTH:	>45N/MM ²
TYPICAL DENSITY:	2500 KG.M ³
DRYING SHRINKAGE:	<0.04%
WATER ABSORPTION:	0.9.MG/MM ²

GRC	
Technical Specification	
Min. Compressive Strength (typical)	>30N/mm ²
Max. Density (typical)	2360 kg/m ³
Drying Shrinkage	<0.04%
Water Absorption	0.90mm ²
Thermal Conductivity 'C'	1.40 W/m ² C - exposed 1.25 W/m ² C - protected
Thermal Resistance 'R'	0.11 m ² C/W - exposed 0.17m ² C/W - protected

Installation Guidance Cont...

Movement Joints

Vertical movement joints should occur at intervals of 6 metres in long lengths of Cast Stone Masonry.

Differential Movement

Due regard should be given to the possible effects of differential movement between various types of building materials. Cast Stone products in general experiences long term shrinkage, whereas clay bricks suffer from irreversible moisture expansion and so these materials should be separated because their movements are different in both magnitude and direction. To reduce the potential for movement it is also important that the units are correctly bedded on full bed of mortar, except Cills and Thresholds. DPC's should always be sandwiched in the joint so that they are bedded on both sides. Under no circumstances should Cast Stone units be laid dry on top of DPC's.

Where two differing materials are used together in the same construction, they should be separated by a slip plane. Slip planes should be designed to allow parts of the construction to slide, one in relation to the other, so reducing the shear stresses in the adjacent materials. The slip plane should contain two layers of smooth incompressible sheet material or an applied coating to form a separating membrane. Often these details double up as dpc cavity trays. In principle the details should be checked to ensure that any differential movement is free to take place.

To reduce the effects of differential movement it is recommended to provide bed joint reinforcement for two courses above and below all openings, extending no less than 600mm either side of the opening. It is also important to specify the correct grade of mortar. Strong mortars, should be avoided as these can concentrate the effects of differential movement over restraining the Cast Stone units and possibly resulting in cracking.

Mortar Recommendations

Masonry cement/sand and plasticised cement/sand mortars are suitable for use with Stone by Design's Architectural Cast Stone. However, mortars containing lime are highly recommended as they have a lower permeability and give greater resistance to rain penetration. Additionally, any voids and hairline cracks that may develop in lime mortars are likely to seal themselves over a period of time.

Mortars must be able to resist frost and develop durability quickly. However, unnecessarily strong mortars concentrate the effects of any differential movement. The reason is that too much restraint is offered by strong mortars and that this can cause distress to the Cast Stone by preventing the shrinkage process taking place. If strong mortar is used in the jointing/pointing process then damage may occur to the arrises as the strong mortar shrinks away, perhaps pulling some of the arris with it. Strong mortars shrink considerably and also have a higher bond strength.

The recommended grades of mortar are:

MORTAR PROPORTIONS BY VOLUME			
Conditions	Masonry Cement : Sand	Plasticised Cement : Sand	Cement : Lime : Sand
Severe Exposure	1 : 4 to 5	1 : 5 to 6	1 : 1 : 5 to 6
Moderate Exposure	1 : 5 to 6	1 : 7 to 8	1 : 2 : 8 to 9

Handling & Storage

Stone by Design's Architectural Cast Stone units are supplied shrink wrapped on pallets for ease of handling. Care should be taken when moving Cast Stone units around the site. Please read the following guidelines:

Pallets should be stored on flat ground and not double stacked.

The shrink wrap cover should not be removed until the products are ready to install.

Products should not be stored face to face without the use of a suitable interface material.

After installation, it is recommended that the Cast Stone products are protected against damage from other on site work.





Stone by Design

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