

Semi Dry Technical Data

Composition

Semi Dry Cast Stone architectural masonry is manufactured in accordance with **BS1217:2008** in two part or homogenous semi dry or wet cast mix. We use naturally occurring aggregates, sand, Portland cement and an integral water proofer; pigments are added where necessary.

Definition

"Any material manufactured with aggregate and cementitious binder intended to resemble in appearance and be used in a similar way to natural stone".

Products are either homogenous or composed of separate facing and backing mixes.

Constituents

All products used are manufactured to the following current British Standards.

Portland cement to	BS EN 197-1:2011
Aggregates to	BS EN 12620:2002+A1:2008
Sands to	BS 1199 and 1200:1976
Pigments to	BS EN 12878:1999

Applications

Faced stone blocks and dressings are primarily used for external walls but may be used on internal applications where required.

Compressive Strength

When tested in accordance with BS EN 12390-3:2002 and BS1217:2008, the cast stone was tested over three 150mm cubes giving an average crushing strength well in excess of **25KN/mm²**.

Dry Shrinkage

The average dry shrinkage of three specimens sampled and tested in accordance with BS EN 772-2:1998 was as follows:

Face Mix	<0.04%
Backing Mix	<0.06%

Density

The typical mean density of our architectural masonry is 2150kg/m³

Initial Surface Absorption

When tested in accordance with BS1217:2008 using methods in BS1881-208 values were found to be less than 0.25ml/(m².s) as required.

Thermal Conductivity (K Value)

The thermal conductivity of our architectural masonry in accordance with table A3:1 of the CIBS guide "Thermal properties of Building Structures" is to be taken as follows:

Exposed.....40 W/M⁰ C
(at 5% moisture content)

Protected 1.28 W/M⁰C
(at 3% moisture content)

Manufacturing Tolerances

All our architectural masonry complies with following tolerances unless otherwise agreed in writing by us.

Plane

The maximum permitted variation from plane is 0.03% of the maximum dimension of the item of 3mm whichever is the greater.

The actual dimensions of individual regular units should conform to the stated dimensions subject to the tolerances below:

Length

Tolerance in MM	Length	Width	Thickness
Up to 600mm	+/-2	+/-2	+/-2
Over 600mm to 1000mm	+/-3	+/-3	+/-3
Over 1000mm to 2500mm	+/-4	+/-4	+/-4
Over 2500mm to 4000mm	+/-5	+/-5	+/-5
Over 4000mm	+/-6	+/-6	+/-6

Fire Resistance

Units manufactured in accordance with the Standard are non-flammable, non-combustible and do not give off toxic gases and can provide a barrier to the spread of smoke and flames.

Structural Use

Heads are non-structural or load bearing, these are supplied in maximum lengths as per slenderness guidelines in BS1217.

Quoins, Plinths and String Courses can be used in load bearing situations when used in compression. All units are provided with steel reinforcement for lifting and handling purposes only.

Weathering

Many factors influence the way cast stone weathers; such as design, exposure, climate and surrounding. All pigments used are colour fast and durable and confirm to BS1014. Our architectural dressings will weather in a similar manner to natural stone, when exposed to similar conditions.

Cementitious Efflorescence

As with all reconstructed stone and cement based products there is the possibility that the temporary phenomenon known as efflorescence will occur causing lightening of colour. This will reduce over a period of time with natural weathering.

Resistance to Rain Penetration

As with all facing masonry, (reconstructed stone walling blocks or natural stone etc) external skins of cavity walls are not totally impervious to heavy driving rain as there is the possibility that water penetration will take place through the mortar joints. To avoid this, normal good building practice should be observed.

Cutting

Cast Stone should be designed in such a way as to avoid any site cutting. If cutting is required please consult our technical department for further information.

C.O.S.H.H.

Controls of substances hazardous to Health see our specific sheet for more details.

Surface Finish

The colour and texture of the exposed face of the cast stone should be agreed between the client/architect and ourselves.

With the differences in the way units are manufactured there can be subtle variations in the colour. Cement and aggregates used are carefully chosen for their quality and consistency. All obtained from natural sources and therefore subject to variations beyond our control. We do and always make every effort to ensure consistency in colour and texture of units manufactured, but no guarantees can be given.

Cleaning of Cast Stone

Due to the fine textures and pale colours of cast stone the removal of staining of mortar and other forms of staining can be difficult. It is for this reason that every effort must be made to avoid contamination at early stages