



DATA SHEET- Number 4

Subject – Technical Information Semi Dry & Wet Cast

Composition

Our architectural masonry is manufactured in accordance with BS1217:2008 homogenous mix. We use naturally occurring aggregates, sand, Portland cement and integral water proofer. Pigments are added where necessary.

Definition

“Any material manufactured with aggregates and a cementitious binder, intended to resemble in appearance and be used in a similar way to natural stone”.

Constituents

All products used are manufactured to the following current British standards:

BS12:1996 – Specification for Portland Cement.

BS882:1992. - Aggregates

BS1014:1975 - Water proofer pigments

Applications

Faced stone blocks and dressings are primarily used for external applications where required.

Compressive strength

When tested in accordance with BS EN 12390-3:2009 and BS1217:2008 three 100mm cubes giving an average crushing strength in excess of **35Kn/m² for semi dry** and wet cast in Excess of **50Kn/m² for wet cast.**

Density

The typical mean density of our architectural masonry is 2220kgs/ m³ for Semi-dry and 2400/m³ for Wet Cast CAT (Capillary Absorption Test)

When tested in accordance with BS1217:2008 the average result over three samples was less



than **1.0 mg/mm²**

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/M°C (at 5 % moisture content)

Protected.1.28 W/M°C (at 3 % moisture content)

Manufacturing tolerances

Our architectural masonry complies with the following tolerances unless otherwise agreed in writing by us:

Plane

The maximum permitted variation from plane is 0.3% of the maximum dimension of the item or 3mm whichever is the greater

Length

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

<u>Overall Tolerance in MM</u>	<u>length</u>	<u>width</u>	<u>thickness</u>
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

Semi Dry/ lightweight heads are decorative. We can manufacture structural units in Wet Cast. Calculations and reinforcement specifications must be confirmed by your structural engineer in consultation with us.

Quoins, plinths and string courses can be used in load bearing situations when used in compression. All units are reinforced as follows, except where stated otherwise:



6/8mm dia mild steel bars for handling purposes only.

Galvanized or stainless steel is available subject to additional costs.

Weathering

Many factors influence the way cast stone weathers e.g., design, exposure, climate and surrounding. All pigments used are colourfast and durable and conform to BS1014. Architectural dressings will weather in a similar manner to natural stone, when exposed to similar conditions.

Cement efflorescence

As with all reconstituted 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 as explained in information sheet No. 1.

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 though the mortar joints. To avoid this, normal good building practice should be observed.

Surface finish

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

With the differences in the way the units are manufactured there can be subtle variations in the colour and texture. Cement and aggregates used are carefully chosen for their quality and consistency. All are obtained from natural sources and are therefore subject to variations beyond our control. We 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 mortar staining 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.



British and European standards

The following British standards give guidelines and information on the various aspects of design, construction and usage of cast stone:

PD 6697: 2010 – Recommendations for the design of masonry structures.

BS EN 1996-1-1:2005 + A1:2012 – Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced structures.

BS EN -1-2:2005 – Eurocode 6. Design of masonry structures. General rules structural fire design.

BS EN 1996-2:2006 – Eurocode 6. Design considerations selection of materials and execution of masonry structures

BS EN 1996-3:2006 – Eurocode 6. Design of masonry structures. Simplified calculation methods of unreinforced masonry structures

BS 5642-1:1978 + A1:2014 – Sills, Copings and Capping's. Specification for window cills of precast concrete, cast stone, clayware, slate and natural stone.

BS 5642-2: 1983 + A1:2014 – Sills, copings and capping's. Specification for coping and capping's of precast concrete, cast stone, clayware slate and natural stone