



SPECIFYING CAST STONE WITH CONFIDENCE

A guidance note to specifiers and users on the characteristics of cast stone that can influence the choice in terms of supplier and type of cast stone units.

Cast stone's clever use of cement and other materials makes it an appropriate and attractive product for use in both new build and refurbishment projects. It is durable, long lasting and can match the appearance of many natural stone finishes.

Cast stone is comparable to natural stone as a building material in both appearance and performance, yet it is readily available and provides a cost effective alternative. It can be formed to almost any shape and size the designer wishes and can equal or surpass the technical capabilities of natural stone in terms of strength, moisture penetration, colouring and texture.

Cast stone as defined by UKCSA is "any product manufactured with aggregate and cementitious binder intended to resemble and be used in a similar way to natural stone".

The UKCSA has three specific categories of cast stone, determined by a combination of manufacturing process, technical performance and applications. These categories are described as: **Semi Dry**, **Wet Cast**, and more recently **Fibre Reinforced Cast Stone**. A detailed summary of the various categories and processes is contained with the UKCSA Technical Manual for Cast Stone (Section 2) available as a download from the website.

This guidance note is focused on the issues that a specifier and/or end user may need to consider when choosing which product to use on a particular project and the categories are listed below with the relevant points:

Semi Dry: This is a "traditional" product made from a low water content mix, compacted into moulds to a similar density to that of natural stone. Typically the product is demoulded immediately after casting and there is no need for a secondary surface treatment. The product exhibits a sandy/grainy texture that is most similar to natural sandstones. Units are produced for standard masonry construction in traditional sized pieces and profiles.

Wet Cast: This process uses a higher water content and results in a closer texture and increased density of circa 10% above that of natural sandstones. Casting will normally be at the rate of one unit per mould per day. Whilst smooth faces need very little extra treatment, a textured surface, similar to sandstone, may need a degree of secondary treatment subsequent to demoulding. A wide variety of finishes is possible and the manufacturing process and mix design is eminently suitable for the precise creation of fine detail and the incorporation of reinforcement to achieve specific structural requirements, with the option of larger units/panels.

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Fibre Reinforced:

This process incorporates fibre reinforcement into a higher water content mix that can be either poured or sprayed into moulds, from which the product is demoulded the following day. A dense product with a close face texture is achieved which can be varied by the use of secondary surface treatments. Often the units are produced in thin sections which reduces the weight and associated manual handling issues, and offers the opportunity, through careful design, and use of fixings for retrofitting to the structure.

All categories have their relative advantages and should be considered as suitable or preferred alternatives to the natural stone they replicate.

More important than the type of manufacturing process will be the quality of the raw materials, product durability, buildability, and most importantly the reliability, dependability and accountability of the manufacturer. Therefore it is essential that, whichever product category is selected, the supplier should be chosen extremely carefully.

Choosing an UKCSA member company gives the confidence required through the strict controls and standards adhered to, which include the manufacturing standards and procedures and third party testing and verification together with the social responsibility expected from a credible organisation.

If you are considering cast stone, think UKCSA and specify from the Full Manufacturing Members listing using the **UKCSA Specification Document**, details of which are available on the website: www.ukcsa.co.uk.