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Castle Masonry Cement technical specification

Castle Masonry Cement is specially formulated to comply with the requirements of Masonry cement BS EN 413-1 : 2004 MC 12,5 and carries the CE conformity mark.

Mixed with suitable sand and water, Castle Masonry Cement mortar combines excellent workability and plasticity with high bond strength, water retention and durability.

Applications

Castle Masonry Cement is designed specifically for use in mortars used for brickwork and blockwork, external rendering and internal plastering. Castle Masonry Cement is an alternative to Castle Ordinary Portland Cement used with Castle Hydrated Lime or plasticiser.

Mortar made with Castle Masonry Cement spreads easily and is formulated to ensure that the loss of water to absorptive bricks or blocks is minimised. The air entrained during mixing Castle Masonry Cement contributes to improved durability and frost resistance in the hardened mortar. Not recommended for below DPC applications in areas subject to sulfate attack. Use Castle SRPC manufactured to comply with BS4027 : 1996 (see Castle Sulfate-resisting Portland Cement).

Quality

Castle Masonry Cement is produced using carefully selected raw materials. Strict quality control throughout each stage of the manufacturing process helps to ensure that a consistent final product is achieved.

Technical information on the quality of Castle Masonry Cement is available to customers on request from Castle's Technical Helpline on 0845 722 7853. Information is available covering test data on chemical composition, setting times, soundness and properties in standard mortars covering water retentivity, air-entrainment, flow and compressive strengths.

Strength

Very high strength is not normally required of building mortars but Castle Masonry Cement will develop strength quickly. This is particularly advantageous during cold weather and also ensures maximum durability from an early age.

An unnecessarily strong mortar will concentrate the effects of any differential movement between the mortar and the brickwork and cracks may appear which could reduce the durability and increase the risk of penetration by rain.

A properly designed mortar will accommodate some differential movement between the mortar and the brickwork and if cracking does appear it will generally be distributed as hairline cracks in joints, thus preserving the integrity of the blocks or bricks themselves. In general the mortar should be weaker than the bricks or blocks and this is particularly important with concrete blocks which may have a high drying shrinkage.

Mortar mix design

It is important to consider the mix proportions of mortars with care. The following mix proportions are intended as a guide but may need altering slightly to suit local conditions such as the type of brick or block, or the sand being used.

Designation	Use	Proportions – Castle Masonry Cement: sand (by volume)
Mortars for bedding brickwork, concrete blocks, masonry, etc		
I	Conditions where strong dense mortar is essential (e.g. where heavily loaded and some classes of work below ground level)	Mix designed to give required strength
II	Work in severe conditions of exposure to weather; work below DPC	1: 2.5-3.5
III	Normal construction	1: 4-5
IV	External work above DPC, if not carried out in winter	1: 5.5-6.5
V	Internal work, if not carried out in winter	1: 6.5-7
Mortars for external rendering and internal plastering		
–	Floating and finishing coats	1: 4-6
Note: The mix for each successive coat should not be richer in cement than the mix used for the coat to which it is applied.		
Mortar for tiling		
–	Backing and bedding	1: 3
Notes: Sand should be free of foreign or harmful materials and should comply with the requirements of BS EN 13139 : 2002 Aggregates for Mortar (previously covered by BS1199 : 1976 (1996) sand for external rendering and internal plastering, and BS1200 : 1976 (1996) for mortar for brickwork, blockwork or masonry). When mix proportions are by volume, care should be taken if the sand is either dry or excessively wet, to allow for bulking. The formulation of Castle Masonry Cement ensures that mortar which has hardened satisfactorily will possess increased frost resistance due to the presence of entrained air as compared with mortar made with ordinary Portland cement or cement lime mixtures. In cold weather newly erected brickwork or blockwork should be covered with sacking, tarpaulins, polythene sheeting or other suitable material to protect the mortar against frost, rain or snow.		

Admixtures and extenders

Castle Masonry Cement is formulated to give excellent properties in mortars. It is not necessary to use further admixtures such as air-entraining agents or workability aids. Accelerating admixtures are not recommended as they will not normally give the required effects or provide added protection against early frost damage.

Extenders, either ground granulated blastfurnace slag or pulverised-fuel ash, should not be used with masonry cements.

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Please note: Reference to a Technical Standard number in this leaflet is deemed to include the latest published edition and/or any published amendments issued after the standard's publication, unless a date of issue is quoted in which case reference is to the provisions stated in that edition.

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