

MASTERCRETE



bringing materials to *life*™



CEM I 32,5R AND CEM II/A-LL 32,5R CEMENT

An enhanced cement, supplied in weather resistant plastic packaging.

Mastercrete is available in two formulations (CEM I and CEM II), both formulations having the same performance specification. Both CEM I and CEM II formulations are enhanced cements which comply with the requirements of BS EN 197-1 Portland cement CEM I 32,5R and Portland-limestone cement CEM II/A-LL 32,5R respectively.

It has the following benefits compared with ordinary Portland cement:

- enhanced resistance to freeze/thaw attack.
- lower water demand.
- a more cohesive mix.
- less tendency for water to segregate and bleed.

Mastercrete is a quality assured cement with independent third party certification and carries a CE Mark.

Mastercrete is available in waterproof and tear resistant plastic packaging throughout the UK.

Applications

Mastercrete is for use in concretes, mortars, renders and screeds.

For specified concrete refer to BS 8500: *Concrete—Complementary British Standard to BS EN 206-1*, which provides guidance for different types and classes of cement.

Reference should also be made to the following documents:

BS 5628: *Part 3: Use of Masonry*.

BS EN 13914-1 *Design, preparation and application of external rendering and internal plastering*.

Sulfacrete should be used where increased resistance to sulfates is required.

Properties

- Consistent strength meeting all the conformity criteria in BS EN 197-1.
- Contains cement quality improver to give the following benefits compared with ordinary Portland cement: lower water demand, more cohesive mix, less tendency for water to segregate and bleed and enhanced resistance of hardened concrete or mortar to freeze/thaw attack.
- Mastercrete entrains a controlled quantity of air and the addition of admixture of the air-entraining type is unnecessary and not recommended for concrete. In mortar and rendering, the addition of proprietary air-entraining mortar plasticiser is either unnecessary or the manufacturer's recommended dosage significantly reduced dependant upon the sand used. Other proprietary admixtures of the non air-entraining type and pigments are compatible with Mastercrete. Trial mixes are recommended to determine optimum mix proportions.

Availability

Mastercrete is supplied in 10kg and 25 kg bags throughout the UK.



Storage

Mastercrete is a cement based material and should be handled and stored with care. This product may be stored, unopened in either indoor or outdoor conditions. Information on the maximum storage period can be found on the bag.

Conditions of Use

- Mastercrete may not be used where sulfate resistant cement is required.
- Mastercrete should not be mixed with additions or other cement types.
- Mastercrete may be used in the range of traditional nominal mixes as for traditional Portland cement.
- To achieve optimum performance from Mastercrete in concrete or other products, it is essential that it is correctly specified and used.
- Recommended mixes are given in the Lafarge Cement Builders' Guide, available from the contacts below.
- As with other cements in building work, there is no substitute for good practice and workmanship. It is essential to use the correct materials, proportion and mix the materials properly, add the correct amount of water, compact, cure and protect as appropriate. When using CEM II cement, it is particularly important that effective curing is applied.
- Normal hot and cold weather practice should also be followed.
- The final finish quality of this material will depend upon the operative having the required skills and a familiarity with the material and its application methods.
- Lafarge Cement UK cannot be held responsible where workmanship has not been carried out in accordance with good practice.
- Manual handling should comply with The Manual Handling Operations Regulations 1992.
- Mastercrete is manufactured from natural products, and slight shade variations may occur. Mastercrete will also have shade variations from differing manufacturing centres.

Technical Support

Further information or specification advice on Mastercrete and the full range of Lafarge cements can be obtained from the contacts listed below.

Health and Safety

Contact between cement powder and body fluids (eg sweat and eye fluids) may cause irritation, dermatitis or burns. Cement is classified as an irritant under the Chemicals (Hazard Information and Packaging) Regulations.

For further information, including control of soluble hexavalent chromium, refer to the appropriate Lafarge Cement Health and Safety Information Sheets.

Note: Both BS 8500 and BRE Special Digest 1 currently restrict the use of concrete containing Portland limestone cement to Design Sulfate Class DS-1 exposure conditions.

Typical properties		
Surface area	(m ² /kg)	280 to 390
Setting time – initial	(minutes)	80 to 200
EN196-1 Mortar		
– compressive strength		
2 day	(N/mm ²)	16 to 26
7 day	(N/mm ²)	27 to 37
28 day	(N/mm ²)	37 to 47
Apparent particle density	(kg/m ³)	3080 to 3180
Bulk density		
(kg/m ³)		
Aerated		
Settled		
1000 to 1300		
1300 to 1450		
Mortar air content	%	7 to 12
Colour	L value	55 to 70
Sulfate	SO ₃ (%)	2.5 to 3.5
Chloride	Cl (%)	Less than 0.1
Alkali	Eq Na ₂ O (%)	0.4 to 1.0

Mastercrete is predominantly compounds of calcium silicate and calcium aluminate with a small proportion of gypsum. It is produced by burning or sintering, at a temperature in excess of 1400°C, a finely ground mixture of raw materials which contain predominantly calcium carbonate, aluminium oxide, silica and iron oxide. The cooled clinker formed is ground under controlled conditions with the addition of typically 5% gypsum.



The information in this datasheet is accurate at the time of printing, but Lafarge Cement UK reserve the right to amend details as part of their product development programme.

Further information

Technical helpline

Tel: 0845 812 6232
info@lafargecement.co.uk

Customer services

Tel: 0845 812 6300
customerservice@lafargecement.co.uk

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