

PORTLAND LIMESTONE CEMENT



bringing materials to *life*™



PORTLAND COMPOSITE CEMENT CEM II/A-LL 42,5/52,5

Contains a controlled level of high purity limestone. Conforms to the requirements of BS EN197-1 for CEM II/A-LL and contains 6-20% limestone.

Portland Limestone Cement is quality assured with independent third party certification carrying CE Marking.

Applications

Portland Limestone Cement can be used in the following applications as an alternative to Portland cement (for exceptions see note overleaf):

- Concrete products.
- Ready mixed concrete.
- Building, including floor screeds, mortar and rendering.
- Civil engineering.

Properties

The properties of fresh concrete made with Portland Limestone Cement are similar to those of a Bulk Portland CEM I concrete, although the setting time may be slightly shortened and the tendency to bleeding significantly reduced.

Portland Limestone Cement has a paler colour, and is therefore especially suitable for decorative and architectural concrete.

At the same water:cement ratio, Portland Limestone Cement can have a lower 28 day compressive strength than concrete made with CEM I, even when the cements are of the same cement class. Consequently, higher cement contents may be required to achieve the same strength.

At the same concrete strength, Portland Limestone Cement concrete has similar performance to CEM I concrete in respect of carbonation rate, chloride ingress and resistance to freezing and thawing (both air-entrained and non air-entrained concrete).

Conditions of Use

- Concrete, mortars and grouts containing Portland Limestone Cement must be specified and used correctly for best performance.
- Portland Limestone Cement should not be mixed with additions or other cement types.
- The cement content must be correct and the water:cement ratio as low as possible consistent with satisfactory placing, thorough compaction and effective curing.
- The final finish quality of this material will depend upon the operative having the required skills and a familiarisation with the materials and its application methods.
- Lafarge Cement UK cannot be held responsible where workmanship has not been carried out in accordance with good practice.



- Portland Limestone Cement is manufactured from natural products, and slight shade variations may occur. Portland Limestone Cement will also have shade variations from differing manufacturing centres

Availability

Portland Limestone Cement is supplied in bulk tankers throughout the United Kingdom.

Technical Support

Further information or specification advice on Portland Limestone Cement and the full range of Lafarge cements can be obtained through the contacts listed.

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: BS 8500 currently restricts the use of concrete containing Portland Limestone cement to Design Sulfate Class DS-1 exposure conditions although BRE Special Digest 1:2005 permits its use in DS-2 sulfate conditions. BS 8500 also does not permit the use of Portland Limestone cement in mixer combinations with ground granulated blastfurnace slag or fly-ash.

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.

Typical properties		
Surface area	(m ² /kg)	360 to 470
Setting time – initial	(mins)	95 to 150
EN196-1 Mortar		
– compressive strength		
2 day	(N/mm ²)	21 to 30
7 day	(N/mm ²)	36 to 50
28 day	(N/mm ²)	45 to 65
Apparent particle density	(kg/m ³)	3080 to 3180
Bulk density		
	Aerated	1000 to 1300
	Settled	1300 to 1450
Colour	L value	62.0 to 66.0
Sulfate	SO ₃ (%)	2.5 to 3.5
Chloride	Cl (%)	Less than 0.06
Alkali	Eq Na ₂ O (%)	0.35 to 0.65
Tricalcium Silicate	C ₃ S (%)	40 to 70
Dicalcium Silicate	C ₂ S (%)	6 to 25
Tricalcium Aluminate	C ₃ A (%)	6 to 12
Tetracalcium Aluminoferrite	C ₄ AF (%)	5 to 10
Limestone content	CaCO ₃ (%)	6 to 20

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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