

PORTLAND



bringing materials to *life*™



PORTLAND CEMENT CEM I 42,5/52,5

A range of Bulk Portland cements for civil engineering, building applications, ready-mixed concrete, and concrete products.

Portland cements are quality assured with independent third party certification and carry a CE Mark.

Applications

Portland PC CEM I 42,5 Cement for civil engineering and building applications.

Portland PC-RM CEM I 42,5 52,5 Cement with enhanced properties for ready-mixed concrete.

Portland PC-CP CEM I 52,5 Cement with high early strength for concrete producers and precast manufacturers.

Concrete, mortars and grouts containing Portland cements must be specified and used correctly for best performance. The cement content must be correct and the water:cement ratio as low as possible consistent with satisfactory placing, thorough compaction and effective curing. Refer to the following documents:

BS EN 206-1: *Concrete*

BS 8500: *Concrete – Complementary British Standard to BS EN 206-1.*

BS 5628: *Part 3 Use of Masonry.*

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

Properties

- Grey colour.
- Consistent strength meeting all the conformity criteria in BS EN 197-1.
- Compatible with admixtures such as air-entraining agents and workability aids, with additions such as fly-ash and ground granulated blastfurnace slag and with pigments. Trial mixes are recommended to determine the optimum mix proportions.

Conditions of Use

- Concrete, mortars and grouts containing Portland cements must be specified and used correctly for best performance.
- 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 cements are manufactured from natural products, and slight shade variations may occur. Portland cements will also have shade variations from differing manufacturing centres.



Availability

Portland cements are available throughout the United Kingdom in bulk tankers.

Technical Support

Further information and specification advice on Portland cements, and the full Lafarge Cement cements range, 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.

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)	290 to 420
Setting time – initial	(mins)	80 to 200
EN196-1 Mortar		
– compressive strength		
2 day	(N/mm ²)	25 to 35
7 day	(N/mm ²)	40 to 50
28 day	(N/mm ²)	54 to 64
Apparent particle density	(kg/m ³)	3080 to 3180
Bulk density		
	Aerated	1000 to 1300
	Settled	1300 to 1450
Colour	L value	55.0 to 66.0
Sulfate	SO ₃ (%)	2.5 to 3.5
Chloride	Cl (%)	Less than 0.05
Alkali	Eq Na ₂ O (%)	0.4 to 0.75
Tricalcium silicate	C ₃ S (%)	45.0 to 60.0
Dicalcium silicate	C ₂ S (%)	15.0 to 25.0
Tricalcium aluminate	C ₃ A (%)	7.0 to 12.0
Tetracalcium aluminoferrite	C ₄ AF (%)	6.0 to 10.0

Further information

Technical helpline

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

Customer services

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

Portland cements are predominantly compounds of calcium silicate and calcium aluminate with a small proportion of gypsum. They are 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.

LAFARGE CEMENT UK

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