



# PORTLAND PLUS CEMENT

**THE UK'S PREMIUM CEMENT**

TECHNICAL DATA SHEET



## BULK PORTLAND PLUS CEMENT FOR HIGH EARLY STRENGTH, CONSISTENT PERFORMANCE AND LIGHT COLOUR IN PRECAST APPLICATIONS, BLOCKS AND ADHESIVES.

**PORTLAND PLUS CEMENT** – Breedon Cement’s premium 52,5N cement is quality assured with independent third party certification and carries a CE Mark. It is more finely ground than Portland cement and is designed specifically for:

- Precast and concrete product applications where 1 and 2 day strength is critical.
- Customers for whom consistency of cement performance and colour is key to their end product quality.

### APPLICATIONS

#### **PORTLAND PLUS CEMENT**

with enhanced properties for precast, blocks and adhesives.

Concrete and grouts containing **PORTLAND PLUS CEMENT** 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.

Portland Ash Blend or Slag Blend Cements should be used where increased resistance to sulphates is required.

### PROPERTIES

- Consistent performance and light colour.
- Consistent strength meeting all the conformity criteria in BS EN 197-1.
- High early strength at 2 days.
- Compatible with admixtures such as air-entraining agents and workability aids, with additions such as fly-ash and ground granulated blast furnace slag and with pigments. Trial mixes are recommended to determine the optimum mix proportions.

### AVAILABILITY

**PORTLAND PLUS CEMENT** is available throughout the United Kingdom in bulk tankers.





# PORTLAND PLUS CEMENT

## CEM I 52,5N



### CONDITIONS OF USE

Concrete and grouts containing **PORTLAND PLUS CEMENT** 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.

Breedon Cement Limited cannot be held responsible where workmanship has not been carried out in accordance with good practice.

**PORTLAND PLUS CEMENT** is manufactured from natural products, and slight shade variations may occur. **PORTLAND PLUS CEMENT** will also have shade variations from differing manufacturing centres.

### TECHNICAL SUPPORT

Further information and advice on this product and the full range of Breedon cement products can be obtained through contacting your local representative, or by calling our customer services team on 0845 5201 888.

### 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.

### TYPICAL PROPERTIES

*(For guidance only, not to be used for specification purposes)*

Surface area (m <sup>2</sup> /kg) Portland Plus SSA	350 - 410
Setting time - initial (minutes)	60 to 180
BS EN 196-3 Mortar - compressive strength	2 day (N/mm <sup>2</sup> ) 30 to 40 7 day (N/mm <sup>2</sup> ) 45 to 55 28 day (N/mm <sup>2</sup> ) 54 to 68
Apparent particle density (kg/m <sup>3</sup> )	3080 to 3180
Bulk density (kg/m <sup>3</sup> )	Aerated 1000 to 1300 Settled 1300 to 1450
Colour L value	61.0-66.0
Sulfate SO <sub>3</sub> (%)	3.0 to 3.6
Chloride Cl (%)	Less than 0.10
Alkali Eq Na <sub>2</sub> O (%)	0.4 to 1.0
Tricalcium Silicate C <sub>3</sub> S (%)	45.0 to 65.0
Dicalcium Silicate C <sub>2</sub> S (%)	15.0 to 25.0
Tricalcium Aluminate C <sub>3</sub> A (%)	7.0 to 12.0
Tetracalcium Aluminoferrite C <sub>4</sub> AF (%)	6.0 to 10.0

**TO DISCUSS YOUR SPECIALISED MIX AND ANY FURTHER REQUIREMENTS, CALL:**

**0845 5201 888**

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## CEMENT:

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## CONCRETE & AGGREGATES:

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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.

The information given in this technical datasheet is based on our current knowledge and is intended to provide general notes on our products and their uses. Breedon Cement endeavours to ensure that the information given is accurate but accept no liability for its use or its suitability for a particular application because of the product being used by the third party without our supervision.

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