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Hanson White Portland Cement technical data sheet

Hanson White Portland Cement complies with the requirements of BS EN 197-1 CEM I Portland cement strength class 52,5N.

Hanson White Portland Cement is recommended for use in concrete, mortar and renders with or without pigments. The setting properties and strengths of Hanson White Portland Cement are similar to grey Portland cements.

Applications

Hanson White Portland Cement is naturally chosen for its high degree of light reflection. To obtain white or light coloured concrete specially selected white or light coloured sand and stone aggregates are required. Coloured concretes and renders are achieved by adding pigments specifically designed for the use with Portland cement and Portland cement products. For extremely white concrete the white pigment Titanium Dioxide may be added in amounts of up to 5% by weight.

Typical applications for Hanson White Portland Cement include:

- cast stone
- renderings
- cladding panels
- roadmarking, kerbs and bollards
- exposed aggregate finishes
- structural concrete
- floor and wall tiles
- swimming pools
- pointing mortars
- terrazzo finishes
- precast units

Quality

Hanson White Portland Cement is produced using carefully selected raw materials avoiding minerals which would colour the cement. The resultant clinker is ground in ceramic lined mills to ensure an excellent degree of whiteness. Strict quality control throughout each stage of the manufacturing process ensures that a consistent final product is achieved.

Hanson White Portland Cement is licensed under the European Union system of conformity evaluation and carries the CE conformity mark which provides independent third party certification of product conformity. It confirms that in addition to applying a system of factory production control based on BS EN ISO 9001, independent sampling and testing of the cement has confirmed its compliance with all of the requirements of BS EN 197-1.

For further advice please contact Hanson Cement's Technical Helpline on 0845 722 7853. Reports of tests providing data on fineness, setting times, soundness, chemical composition including alkali levels and compressive strengths of mortar prisms are available on a weekly basis.

Strength

Optimum strength and durability performance is achieved when the water/cement ratio is kept as low as possible, consistent with ensuring satisfactory placing and thorough compaction.

Other factors affecting strength include conditions of curing as well as the individual properties of the constituent materials and their proportions in the mix.

The potential strength of any Portland cement based product will only be best developed under saturated conditions. Excessive loss of water by evaporation to the surroundings should be guarded against and for a period of at least seven days precautions should be taken to keep the concrete moist and to prevent premature drying. The rate of strength development will depend on ambient conditions and the initial temperature of the mix. As a general rule, concrete should be kept within the range of 10°C to 30°C. In cold weather, freshly poured concrete should be protected against frost to avoid damage. At higher temperatures there is increased risk of loss of water by evaporation, cracking caused by thermal stresses and reduced ultimate strength.

Concrete mix design

Concrete mix design needs to be varied to suit individual circumstances. It is strongly recommended that trial mixes are carried out prior to commencement of work to ensure that the mix design and material combinations meet the requirements of the specification and method of use.

Please refer to current standards and recommendations for the manufacturer of concretes, renders, mortars and screeds.

The potential strength of any Portland cement based product will best develop under conditions where loss of mixing water is minimised during initial hardening.

Appropriate curing for optimum performance is essential as well as preventing moisture loss to the surrounding materials.

Curing Methods

The term curing refers to methods to prevent loss of moisture from exposed surfaces of concrete in the first 7 days after casting, the following are the most common methods.

- Covering with impermeable sheeting insuring that the edges are held down
- Covering with wet sacking but this must be kept wet by spraying with clean water
- Ponding with clean water
- Spaying with a proprietary curing membrane preferably pigmented to ensure full coverage

Admixtures and additions

Admixtures which are compatible with Hanson Portland cements are normally equally compatible with Hanson White Portland Cement. It is recommended however that trial mixes are carried out to determine optimum properties. Care should be taken to select an admixture which does not adversely affect the product colour.

Hanson White Portland Cement in mortars and renders

Hanson White Portland Cement is suitable for use as a mortar in the jointing of brick, cast stone and as internal and external renders. Performance of mortars will depend on the properties of the sand, mix design and site practice. For further advice please contact Hanson Cement's Technical Helpline on 0845 722 7853.

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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For further information please contact:

Hanson Cement
Ketton
Stamford
Lincolnshire
PE9 3SX

Technical Helpline:

Tel: 0845 722 7853
(calls charged at local rate)
Fax: 01780 727154
Email: cement.technical.help@hanson.biz

Customer Services:

Tel: 0845 600 1616
(calls charged at local rate)
Fax: 01780 727008
Email: cement.customer.services@hanson.biz