Normal Cement (Bagged)

I.S. EN 197-1:2001 CEM II / A-L Class 32.5N

Normal Cement is a high quality general purpose bagged cement and is suitable for all general concreting, block laying and plastering applications.

The product has been specifically designed to reduce the carbon intensity of cement production and to provide enhanced workability in block laying and plastering applications.

The quality of all Normal Cement produced by Irish Cement is guaranteed to meet, in full, the requirements of Irish Standard I.S. EN 197-1 'Cement Part 1: Composition, Specifications and Conformity Criteria for Common Cements', and the product is independently certified by the National Standards Authority of Ireland and is CE marked.

Normal Cement is produced by grinding a combination of cement clinker and selected limestone and grinding aids, along with a small quantity of gypsum, to produce the final fine grey powder. Cement clinker is made by fusing together, at high temperatures, a precisely controlled blend of very finely ground limestone and shale. Normal Cement is manufactured in modern dry process works at Castlemungret, Co Limerick and Platin, Co Meath and is supplied in 25kg bags.

Applications

Normal Cement is suitable for a wide range of applications where no special or unusual considerations arise. Typical applications include use in site-mixed concrete for foundations, paths, etc., in small precast elements and in mortars, renders and grouts. Mortar mixes should have improved workability properties, compared with traditional cement based only on cement clinker, resulting in a more cohesive mortar or render mix, with better handling and finish characteristics.

Product Data

Regular information is available on the performance aspects of Normal Cement, which are of direct interest to specifiers and users.

The requirements of I.S. EN 197-1 for CEM II/A-L class 32.5N cement are compared hereafter to typical performance data for Normal Cement.

Setting time

I.S. EN 197-1 requires a minimum initial setting time of 75 minutes. Initial set for Normal Cement typically exceeds 100 minutes.

Strength

Minimum compressive strengths for standard mortar prisms of 16 N/mm^2 at 7 days and 32.5 N/mm^2 at 28 days are stipulated in I.S.EN 197-1 for class 32.5N cement in accordance with particular compliance rules.

Typical mortar prism strengths of Normal Cement are in the range 30-36 N/mm^2 at 7 days and 40-50 N/mm^2 at 28 days.

Users are particularly interested in strength development and durability in concrete or mortar. Strength is significantly affected by mix constituents and proportions, ambient temperature and curing conditions. A durable concrete requires an adequate cement content and a low water / cement ratio. The correct mix ratio of cement:sand and the use of suitable mortar admixtures or lime is necessary to provide good durability in mortars or plasters. Guidance is available in Irish Standards for suitable concrete and mortar mixes for various exposure conditions.



Irish Cement

Chemical Composition

Cement clinker consists predominantly of compounds formed from Calcium, Silica, Alumina and Iron. Calcium sulfate in the form of gypsum is added to cement to control the setting time. Limestone (Calcium Carbonate), complying with specified requirements in I.S. EN 197-1, is present in the range 6% - 20% in CEM II/A-L Normal Cement, as stipulated in I.S. EN 197-1.

Specific data on chemical and compound composition of Normal Cement is available on request.

Test Certificates

Routine product test data covering the key physical and chemical parameters is made available on a weekly basis on request.

Quality Assurance and Certification

In addition to the company's own guarantee, Normal Cement is CE marked in accordance with the requirements of the EU Construction Products Directive. The CE mark has been awarded by the National Standards Authority of Ireland (NSAI).

Irish Cement Ltd holds Quality Systems Certification to I.S. EN ISO 9001: 2008 and Environmental System Certification to I.S. EN ISO 14001: 2004 from NSAI.

Storage

Cement should be stored dry, otherwise its quality will deteriorate through premature hydration and carbonation. Moisture from the air can be as harmful as direct moisture. The product is supplied in moisture resistant paper bags to give improved storage life.

Health & Safety

Irritating to eyes, respiratory system and skin. Keep out of the reach of children. Avoid contact with the skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Wear suitable protective clothing. Chromium VI reducing agent added and effective for 3 months from date of packing (marked on bag) if stored in dry conditions (DIR 2003/53/EC). A detail Safety Data Sheet is available from Irish Cement Limited (Tel: 041 9876000).

Advice and Information

As part of its ongoing commitment to the quality of design and construction in concrete, Irish Cement provides a comprehensive technical advisory service on the use of cement and concrete.

This technical support is provided by civil engineers, with wide experience of cement and concrete technology, who are available to answer queries and give advice.

They can be contacted at: Technical Marketing Department, Irish Cement Ltd, Platin, Drogheda, Co Louth.

Tel: 041-9876464 Fax: 041-9876400
Email: info@irishcement.ie Web: www.irishcement.ie

Other Cements

Irish Cement Limited also manufactures Normal Cement (Bulk), Rapid Hardening Portland Cement and Sulfate Resisting Portland Cement. Similar data sheets on each of these products are available on request.

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