| Uniclass L621 | EPIC F21123 | Aug 09 |
| --- | --- | --- |
| CI/SfB | Yq2 | |

# Hanson Portland - Fly Ash Cement technical data sheet

Hanson Cement's Portland – Fly Ash Cement is manufactured to comply with the requirements of BS EN 197-1 CEM II/B-V. The strength will be 32,5 or 42,5 depending upon the required fly ash content. It is produced by combining accurately controlled proportions of Ordinary Portland Cement complying with BS EN 197-1 CEM I Class 42,5 and siliceous fly ash complying with BS EN 450.

Hanson Portland – Fly Ash Cement is recommended for use in concrete where moderately low heat and the enhanced durability introduced by the use of siliceous fly ash is required.

## Applications

Hanson Portland – Fly Ash Cement is a homogenised mixture of the two Quality Assured British Standard materials. It provides the user with a further product from the Castle Cement range from which to choose the most economical cement for specific applications.

Fly ash, combined with Portland cement, has been used in the UK since the early 1950s. It was introduced in order to control the heat of hydration of concrete and risk of thermal cracking in large structures such as dams, power stations and concrete oil rigs for the North Sea. The same combination provides an economical alternative cement for use in a wide range of applications through general purpose ready-mix, to high strength pre-cast and pre-stressed concrete.

Portland – fly ash cement concretes, designed for the same 28-day strength as Portland cement concretes, will continue to develop additional strength to 90 days and beyond, providing adequate curing is given.

Hanson Portland – Fly Ash cements bring benefits in reduced water demand; improved workability and flow characteristics; greater ease of pumping and improved surface finish. They offer a degree of sulfate resistance and are suitable for use in up to Design Chemical class 4 ground conditions (see BRE Special Digest 1).

## Quality

Hanson Portland – Fly Ash Cement is manufactured from Castle Ordinary Portland Cement complying with the requirements of BS EN 197 - 1 Class 42,5 and selected fly ash complying with BS EN 450. This selected fly ash is tested in the laboratories of Hanson Cement to confirm its compliance with all of the requirements of BS EN 450 ensuring a consistent quality product.

Hanson Portland – Fly Ash Cement is certified by the British Standards Institution providing third party certification of product conformity to BS EN 197-1. It confirms that in addition to applying a system of factory production control based on BS EN 9002, independent sampling and testing of the cement has confirmed compliance with all the requirements of BS EN 197-1.

BS8500- Concrete : Part 1 Guide to specifying concrete sets out a procedure for using Portland cement combined with fly ash at the concrete mixer. Hanson Portland – Fly Ash Cement combines the two components at the cement works under highly controlled conditions. The proportions in the cement are chosen to achieve a product giving the optimum properties to suit general applications. Strict quality control throughout each stage of the selection and manufacturing process ensures that a consistent, homogeneous product is achieved.

For further advise please contact Hanson Cement's Technical Helpline on 0845 722 7853. Reports of tests providing data on chemistry, strength and fineness are available.

## Strength

At early ages the compressive strength of Hanson Portland – Fly Ash Cement will be lower than that of Portland cement but by 28 days with correct mix design and if adequate curing is applied, the strengths will be similar. Strength will continue to increase, even to 90 days and beyond, providing that adequate curing is maintained. Particular attention should be paid to curing in cold weather when the rate of hydration is slower.

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.

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 keep wet by spraying with clean water
- Ponding with clean water
- Spaying with a propriety curing membrane preferably pigmented to ensure full coverage

## Admixtures

Admixtures can be used to extend the properties of Hanson Portland – Fly Ash Cement in concretes, mortars and grouts. Trial mixes should be made to establish their compatibility and optimum dosage.

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.

L006(Cl)/08/09/pdf

**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

**www.hanson.com/uk**

Hanson
HEIDELBERGCEMENTGroup