

THE CEMBLEND BESPOKE RANGE



bringing materials to *life*™



PORTLAND CEMENT – BLASTFURNACE SLAG BLENDS

The CEMBlend range consists of, customer specified, bespoke blends of CE Marked Portland cement (BS EN 197-1 CEM I 52,5N) and CE Marked ground granulated blastfurnace slag (BS EN 15167-1 ggbs). The blends are designated as CEMBlend 'X', where 'X' signifies the target ggbs content of the blend.

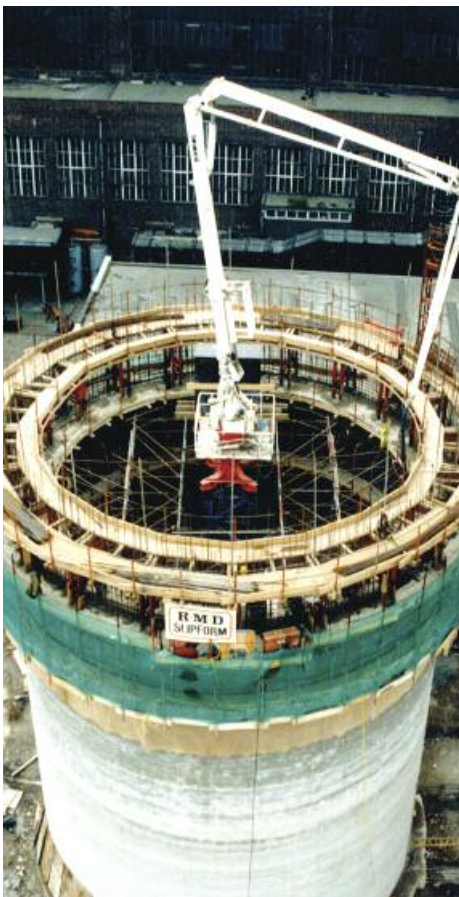
The content of ggbs can be anywhere in the range 6% to 95%, to suit the customer application and requirements. The CEMBlend range offers an opportunity to reduce the embodied carbon dioxide in concrete using a quality assured factory-produced product. The content of ggbs in the blend is within $\pm 2\%$ of the target.

The CEMBlend range is produced under our third-party accredited ISO 9001 Quality Management System (BSI Cert.No: FM 95088). However, Lafarge Cement does not guarantee the performance of a particular blend with the exception of the target ggbs content, tolerance around the target ggbs content and the CE Marking of the constituent materials.

Applications

In BS 8500: Concrete – *Complementary British Standard to BS EN 206-1*, CEMBlend would be regarded as a 'Combination'. The BS 8500 designations for combinations containing different levels of ggbs are shown below.

% ggbs in Blend	BS 8500 Combination Designation
6-20	CIIA-S
21-35	CIIB-S
36-65	CIIIA
66-80	CIIB
81-95	CIIC



Guidance on the appropriate combination for different applications is available in BS 8500 and from the contacts overleaf.

Blends of Portland cement and ggbs, such as CEMBlend are suitable for a wide range of construction applications including:

- Large concrete pours: Combinations of Portland cement with high proportions of ggbs (typically around 70%) can significantly reduce the temperature rise in large concrete pours and hence reduce the risk of early-age thermal cracking.
- Concrete exposed to the ground: BRE Special Digest 1: *Concrete in aggressive ground* indicates that combinations of Portland cement with 66% or more of ggbs demonstrate comparable sulfate resistance to Sulfate Resisting Portland cement in practically all situations.

- To improve the resistance of concrete to reinforcement corrosion when exposed to chlorides from sea-water or other sources.
- To minimise the risk of alkali-silica reaction in concrete: Combinations of Portland cement with 50% or more ggbs are recommended for use with high reactivity aggregates (e.g. greywacke) by BRE Digest 330: *Alkali – silica reaction in concrete and BS 8500: Concrete – Complementary British Standard to BS EN 206-1*

Properties

The properties of concrete containing CEMBlend will depend on the proportion of ggbs in the CEMBlend. When compared with Portland cement concrete at the same cement content, the following differences may be noticed:

- Slower early strength development and potentially higher long-term strength.
- Extended setting times, particularly in cold weather.
- Improved workability retention.
- Extra care is required with curing concrete in order to realise the full potential strength and durability of the concrete.
- Lighter in colour. Freshly exposed concrete may exhibit a blue-green tinge, this is not uncommon and will fade and disappear with exposure to the atmosphere leaving the light colour associated with CEMBlend concrete. The original discolouration will not recur.

Availability

The CEMBlend range is available in bulk in Ireland. Details of availability can be obtained from the contacts listed below.

Conditions of Use

- Concrete, mortars and grouts containing CEMBlend 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.
- CEMBlend is manufactured from natural products, and slight shade variations may occur.

Technical Support

Further information or specification advice on the CEMBlend range and the full range of Lafarge cements can be obtained from the contents 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 classed 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.

Further information

Technical helpline

Tel: 0845 812 6232

E-mail: info@uk.lafarge.com

Customer services

Tel: 0845 812 6300

E-mail:

customerservice@uk.lafarge.com

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