

CEMBLEND ggbs



bringing materials to *life*™



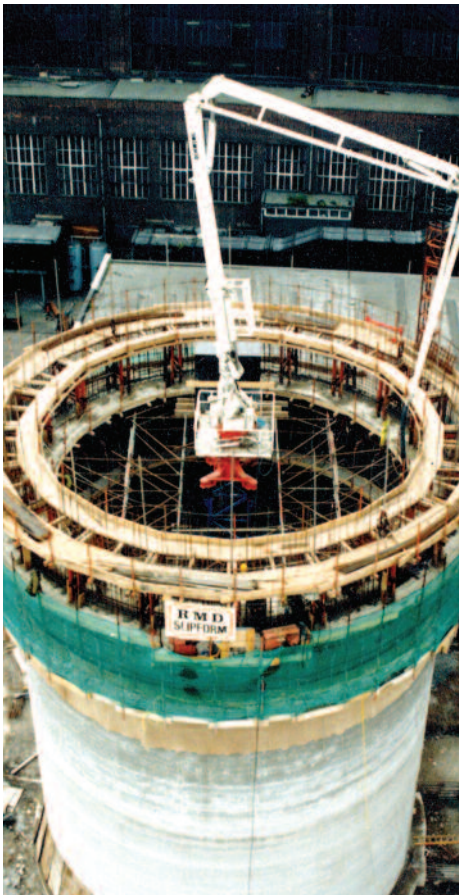
GROUND GRANULATED BLASTFURNACE SLAG BS EN 15167-1

A ground granulated blastfurnace slag suitable for use in combination with Portland cement in concrete, particular uses include:

- Concrete containing reactive aggregates.
- Large pours to reduce the risk of early-age thermal cracking.
- Concrete exposed to sulfates or aggressive ground.
- Concrete exposed to chlorides.

CEMblend ggbs is quality assured ground granulated blastfurnace slag that conforms to BS EN 15167-1¹. CEMblend ggbs is suitable for use in mixer combinations with Portland cement as defined in BS 8500: *Concrete – Complementary British Standard to BS EN 206-1*.

¹ CEMblend ggbs is supplied to Lafarge Cement Ireland by Civil & Marine Slag Cement Limited.



Applications

CEMblend ggbs is normally combined with Portland cement in the concrete mixer. Guidance on the appropriate combination for different applications is available in BS 8500: *Concrete – Complementary British Standard to BS EN 206-1* and from the contacts overleaf. Combinations of CEMblend ggbs and Portland cement are recommended for many applications including:

- Large concrete pours: Combinations of Portland cement with high proportions of CEMblend 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 CEMblend 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 CEMblend ggbs are recommended by BRE Digest 330: *Alkali – silica reaction in concrete* and BS 8500: *Concrete – Complementary British Standard to BS EN 206-1* for use with high reactivity aggregates, including Greywacke.

Properties

The properties of concrete containing CEMblend ggbs combined with Portland cement will depend on the proportion of 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 ggbs concrete. The original discolouration will not recur.

Availability

CEMBlend ggbs is available in bulk in Ireland and the Isle of Man. Details of availability can be obtained from the contacts listed below.

Technical Support

Further information or specification advice on CEMBlend ggbs and the full range of Lafarge cements can be obtained from the contacts listed below.

Health and Safety

Direct contact with CEMBlend may cause irritation of eyes, skin or the respiratory system. When mixed with water the resultant liquid will be alkaline.

For further information, including control of soluble hexavalent chromium, refer to the appropriate Lafarge Cement Health and Safety Information Sheets.

Test certificates indicating that CEMBlend conforms to the requirements of BS EN 15167-1 are available on request.

Designation of mixer combinations

BS 8500 Designation	Proportion of CEMBlend ggbs (%)	Equivalent Cement
CII/A-S	6-20	BS EN 197-1 CEM II/A-S
CII/B-S	21-35	BS EN 197-1 CEM II/B-S
CIII/A	36-65	BS 146 B IIIA
CIII/B	66-80	BS 146 B IIIB

Typical properties

Surface area	(m ² /kg)	500
Apparent particle density	(kg/m ³)	2900
Bulk density	(kg/m ³)	1200
Chloride	(%)	Max. 0.02
Sulfate SO ₃ (Acid Soluble)	(%)	Max. 1.0
Alumina Al ₂ O ₃	(%)	Max. 14.0
Soundness	(mm)	1.0
Alkali Eq. Na ₂ O*	(%)	0.51

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
info@lafargecement.co.uk

Customer services

Tel: 0845 812 6300
customerservice@lafargecement.co.uk

* For combinations of Portland cement with 40% or more CEMBlend ggbs, BS 8500 states that the alkali content of the ggbs does not need to be taken into account when calculating the total alkali content of concrete.

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