

Ecocem Ireland Ground Granulated Blastfurnace Slag (GGBS) Technical Data Sheet

Certification

Ecocem GGBS produced in Dublin meets the requirements of I.S. EN 15167-1, 2006. A Certificate of Conformity to System 1+ was issued Jan 6th, 2011, by National Standards Authority of Ireland resulting in CE marking of GGBS.



050 – CPD – 074

Manufacturing

On exiting the iron processing system, molten blast furnace slag is rapidly quenched with water to form granulated Blastfurnace slag (GBS). The GBS is sourced from selected high quality suppliers in Europe. Ecocem GGBS is produced by drying and grinding the GBS at the milling plant in Dublin. Ecocem GGBS is then dispatched in bulk to the construction industry.

Chemical Composition

The rate of vitrification means that the glass content of Ecocem GGBS is greater than 95% (measured by X-ray diffraction) ensuring highly reactive material. The typical chemical composition of Ecocem GGBS is provided in the table below:

SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	MnO	TiO ₂	SO ₃	Cl ⁻	S ²⁻	Na ₂ O eqv.
36.5	10.4*	0.7	42.4	8.1	0.4	0.5	0.1	0.01	0.7	0.5

*Al₂O₃ content below 14% guarantees the durability performance of Ecocem

Reference Cement

CEM I 42.5 R	Blaine (m ² /kg)	C ₃ A (%)	Na ₂ O eqv. (%)	Initial Settling Time (min)	Compressive Strength*	
Limits	>300	>6 and <12	> 0.5 and < 1.2		7 days	28 days
Characteristics	410	8	0.5	120	45.0	58.0

Standard Characteristics of Ecocem GGBS in combination with Reference Cement

Combination		Compressive Strength*		Activity Index		Initial Setting Time (min)	Initial Setting Time Limit (min)
Ecocem	CEM I 42.5 R	7 days	28 days	7 days	28 days		
0%	100%	45.0	58.0	-	-	120	-
50%	50%	35.0	59.5	0.78	1.03	170	240
70%	30%	27.5	54.0	0.61	0.93	200	-

*Compressive strength reported in MPa measured by EN 196-1 mortar prisms

Physical Characteristics

Blaine: 450 ± 30 m²/kg Density: 2.91 g/cm³ Refusal at 32 μ: <5%

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