

خبث محبب من صناعة الحديد والصلب
GROUND GRANULATED BLAST FURNACE SLAG CERTIFICATE

Product : GGBFS
Standard : BSEN 15167-1 :2006
Week No. : 17/21
Sample Date : 23-29.04.2021 تاريخ العينة :
Issue Date : 31-May-21

Parameters	Units	Results %	Specification	
Chemical Test Results				
Loss On Ignition (Corrected for Oxidation of Sulfur)	LOI	%	1.56	Max. 3.0 %
Silicon Dioxide	SiO ₂	%	32.58	
Aluminium Oxide	Al ₂ O ₃	%	16.29	
Ferric Oxide	Fe ₂ O ₃	%	1.28	
Calcium Oxide	CaO	%	35.71	
Magnesium Oxide	MgO	%	8.13	Max. 18.0 %
Potassium Oxide	K ₂ O	%	0.40	
Sodium Oxide	Na ₂ O	%	0.37	
Sulphur Trioxide	SO ₃	%	1.76	Max. 2.5 %
Chloride	Cl	%	0.023	Max. 0.10 %
Sulphide Sulphur	S ⁻²	%	0.80	Max. 2.0 %
Manganese Oxide	Mn ₂ O ₃	%	0.18	
Insoluble Residue	IR	%	0.20	
Product Moisture		%	0.35	Max. 1.0 %
Glass Content		%	96.3	Min. 67.0 %
Chemical Module				
(CaO + MgO + SiO ₂)			76.42	Min. 66.7 %
(CaO + MgO) / SiO ₂			1.35	Min. 1.0 %
Physical Test Results				
Fineness (Specific Surface)	Blaines	m ² /kg	460	Min. 275 m ² /kg
+45 µm Residue		%	3.10	
Specific Gravity			2.88	
Initial Setting Time -Test OPC	IST	Minutes	189	Min.60 Minutes
Initial Setting Time -GGBFS & OPC 50:50 mix	FST	Minutes	223	Not more than Twice of OPC
Soundness-Le-Chatlier	Expansion	mm	0.6	
Compressive Strength (N/mm²)				
		OPC as per BSEN 42.5 N		
		GGBFS -50 % & OPC-50 %	OPC - 100 %	
2 Days	N/mm ²	12.5	23.9	Min.10
7 Days	N/mm ²	27.2	40.4	
28 Days	N/mm ²	46.1	51.3	Min.42.5 - Max.62.5
Activity Index				
7 Days		%	67.3	Min. 45 % of Test OPC
28 Days		%	90.0	Min.70 % of Test OPC

We hereby certify that above described GGBFS, at the time of consignment, meets the chemical and physical requirements of the BSEN 15167-1:2006


 Quality Control Manager
 (D. Balasubramanian)