National Cement Factory

خبث محبب من صناعة الحديد والصلب

GROUND GRANULATED BLAST FURNACE SLAG CERTIFICATE

Product : **GGBFS**
Standard : **BSEN 15167-1 :2006**
Week No. : **07/20**
Sample Date : 12-18.02.2020 تاريخ العينة :
Issue Date : 21-Mar-20

Parameters		Units	Results %	Specification
Chemical Test Results				
Loss On Ignition (Corrected for Oxidation of Sulfur)	LOI	%	1.13	Max. 3.0 %
Silicon Dioxide	SiO_2	%	33.78	
Aluminium Oxide	Al_2O_3	%	14.47	
Ferric Oxide	Fe_2O_3	%	1.04	
Calcium Oxide	CaO	%	40.87	
Magnesium Oxide	MgO	%	6.61	Max. 18.0 %
Potassium Oxide	K_2O	%	0.31	
Sodium Oxide	Na_2O	%	0.24	
Sulphur Trioxide	SO_3	%	0.12	Max. 2.5 %
Chloride	Cl	%	0.015	Max. 0.10 %
Sulphide Sulphur	S^{-2}	%	0.76	Max. 2.0 %
Manganese Oxide	Mn_2O_3	%	0.16	
Insoluble Residue	IR	%	0.15	
Product Moisture		%	0.24	Max. 1.0 %
Glass Content		%	99.3	Min. 67.0 %
Chemical Module				
$(CaO + MgO + SiO_2)$			81.26	Min. 66.7 %
$(CaO + MgO) / SiO_2$			1.41	Min. 1.0 %
Physical Test Results				
Fineness (Specific Surface)	Blaines	m^2/kg	449	Min. 275 m^2/kg
+45 µm Residue		%	1.48	
Specific Gravity			2.88	
Initial Setting Time -Test OPC	IST	Minutes	192	Min.60 Minutes
Initial Setting Time -GGBFS & OPC 50:50 mix	FST	Minutes	217	Not more than Twice of OPC
Soundness-Le-Chatlier	Expansion	mm	0.4	
Compressive Strength (N/mm^2)				OPC as per BSEN 42.5 N
		GGBFS -50 % & OPC-50 %	OPC – 100 %	
2 Days	N/mm^2	10.3	21.6	Min.10
7 Days	N/mm^2	27.9	37.1	
28 Days	N/mm^2	51.0	48.0	Min.42.5 - Max.62.5
Activity Index				
7 Days		%	75.2	Min. 45 % of Test OPC
28 Days		%	106.2	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

D. Balasubramanian

Quality Control Manager
(D. Balasubramanian)

مصنع الصناعات الوطنية ش.م.ع
ص.ب: ١٠٦٠٧٧ أبوظبي - ا.ع.م.
P.O. Box: 106077 Abu Dhabi U.A.E.
NATIONAL CEMENT FACTORY L.L.C.