

## خبث محبب من صناعة الحديد والصلب

### GROUND GRANULATED BLAST FURNACE SLAG CERTIFICATE

Product	: GGBFS	
Standard	: ASTM C 989-18	
Grade of GGBFS	: Grade 100	
Week No.	: 28/20	
Sample Date	: 08-14.07.2020	تاريخ العينة :
Issue Date	: 19-Aug-20	

Parameters	Units	Results %	Specification	
<b>Chemical Test Results</b>				
Loss On Ignition (Corrected for Oxidation of Sulfur)	LOI	%	1.12	
Silicon Dioxide	SiO <sub>2</sub>	%	33.48	
Aluminium Oxide	Al <sub>2</sub> O <sub>3</sub>	%	13.61	
Ferric Oxide	Fe <sub>2</sub> O <sub>3</sub>	%	0.87	
Calcium Oxide	CaO	%	41.50	
Magnesium Oxide	MgO	%	6.25	
Potassium Oxide	K <sub>2</sub> O	%	0.36	
Sodium Oxide	Na <sub>2</sub> O	%	0.25	
Sulphur Trioxide	SO <sub>3</sub>	%	0.13	
Chloride	Cl <sup>-</sup>	%	0.006	
Sulphide Sulfur	S <sup>-2</sup>	%	0.78	Max. 2.50 %
Manganese Oxide	Mn <sub>2</sub> O <sub>3</sub>	%	0.17	
Insoluble Residue	IR	%	0.15	
<b>Physical Test Results</b>				
Fineness (Specific Surface)	Blaines	m <sup>2</sup> /kg	451	
+45 µm Residue		%	1.64	Max. 20.00 %
Specific Gravity			2.88	
Air Content of slag mortar		%	1.40	Max. 12.00 %
<b>Slag Activity Index (50% OPC : 50 % GGBFS)</b>				
7 Days		%	84.5	
28 Days		%	109.6	Min. 95.0 %
<b>Reference OPC</b>				
Equivalent Alkali		%	0.60	0.60-0.90 %
28 Days Compressive Strength		Mpa	38.1	Min. 35.0 Mpa

*We hereby certify that above described GGBFS, at the time of consignment, meets the chemical and physical requirements of the ASTM C 989-18a.*

  
**Quality Control Manager**  
 (D. Balasubramanian)

