

## TEST CERTIFICATE

### Ground Granulated Blast Furnace Slag

START STRONG . GROW STRONGER.

Sr. No.	Characteristic	Requirement as per IS 16714:2018	Test Result
1	Fineness (M <sup>2</sup> /KG)	320 (Min.)	<b>379</b>
2	Specific Gravity		<b>2.89</b>
3	Residue by wet basis on 45μ (%)		<b>4.80</b>
4	Manganese oxide (MnO) %	5.50 (Max)	<b>0.20</b>
5	Magnesium oxide (MgO) %	17.00 (Max.)	<b>7.77</b>
6	Sulphide Sulphur (S) %	2.00 (Max.)	<b>0.50</b>
7	Sulfate (as SO <sub>3</sub> ) %	3.00 (Max.)	<b>0.19</b>
8	Insoluble residue, %	3.00 (Max.)	<b>0.21</b>
9	Chloride content %	0.10 (Max.)	<b>0.002</b>
10	Loss on ignition, %	3.00 (Max.)	<b>0.35</b>
11	Moisture content %	1.00 (Max.)	<b>0.015</b>
12	Glass content %	85 (Min.)	<b>96.20</b>
13	Slag Activity Index (SAI) (%)		
(A)	7 days	Not less than 60 % of control OPC 43 Grade cement mortar cube	<b>70.72</b>
(B)	28 days	Not less than 75 % of control OPC 43 Grade cement mortar cube	<b>UT</b>
15	Chemical Moduli		
(A)	(CaO + MgO + 1/3Al <sub>2</sub> O <sub>3</sub> ) / SiO <sub>2</sub> +2/3Al <sub>2</sub> O <sub>3</sub>	1.00 (Min)	<b>1.11</b>
(B)	CaO + MgO + Al <sub>2</sub> O <sub>3</sub> / SiO <sub>2</sub>	1.00 (Min)	<b>1.83</b>
(C)	(CaO + MgO + 1/2MgO + Al <sub>2</sub> O <sub>3</sub> ) / SiO <sub>2</sub> + MnO	1.50 (Min)	<b>2.14</b>

**Note :**

Slag activity index (SAI) shall be determined using blend of 50 % GGBS and 50 % control OPC 43 conforming to IS 269, having total alkalis (Na<sub>2</sub>O+0.658 K<sub>2</sub>O not less than 0.6 % and not more than 0.9 % ). The blend shall be tested in accordance with IS 4031 ( Part 6), for determining compressive strength of mortar.

SAI shall be determined as:

$$\frac{\text{Compressive strength of the mortar cube using blend}}{\text{Compressive strength of control OPC mortar cube}} \quad *100$$

**Week No.:** 37    **Month:** 9    **Year:** 2019

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**Associated General Manager**