



53 Grade Ordinary Portland Cement

Despatched during Week No. Test Certificate No. Dated		7	From	12-02-2019	To	18-02-2019
		7	Reference No.			WCW/IMS/QA/FM/08
		19-03-2019				
S.N.	Parameters	Results Obtained	Requirement as per IS 269 : 2015 (Variety: OPC 53)			
1	Chemical Composition					
	Lime Saturation Factor ($\text{CaO} - 0.7 \cdot \text{SO}_3 / (2.8 \cdot \text{SiO}_2 + 1.2 \cdot \text{Al}_2\text{O}_3 + 0.65 \cdot \text{Fe}_2\text{O}_3)$)	0.91	Not greater than 1.02 and not less than 0.80			
	Ratio of % Alumina to that of Iron Oxide $\text{Al}_2\text{O}_3 / \text{Fe}_2\text{O}_3$	1.28	Not less than 0.66			
	Insoluble Residue (% by mass)	0.60	Not more than 5.0 %			
	Magnesia (% by mass)	1.00	Not more than 6.0 %			
	Sulphuric Anhydride (% by mass)	3.00	Not More than 3.5 %			
	Total loss on Ignition (%)	1.80	Not More than 4.0 %			
	Chloride Content (%)	0.010	Not more than 0.1 % for general purpose & not more than 0.05 % for pre-stressed structures			
Physical Analysis						
2	Fineness					
	Blaine's Specific Surface Area (m ² / kg)	300	Not Less than 225			
3	Compressive Strength (MPa)					
	72 ± 1h (3 Days)	37.0	Not less than 27.0			
	168 ± 2h (7 Days)	46.6	Not less than 37.0			
	672 ± 4h (28 Days) *	58.4	Not less than 53.0			
4	Setting Time (Minutes)					
	Initial	150	Not less than 30			
	Final	210	Not more than 600			
5	Soundness					
	Le-Chatelier Expansion (mm)	1.50	Not more than 10.0			
	Auto-Clave Expansion (%)	0.110	Not more than 0.8			
6	Normal Consistency (%)	27.25				
	Temp. During Testing (°C)	27.00	(27 ± 2) ⁰ C			

The above cement complies with the requirements of IS 269 : 2015 (Variety: OPC 53) for 53 Grade Ordinary Portland Cement

Manager (QA)