



WORK TEST CERTIFICATE

53 Grade Ordinary Portland Cement

Despatched during Week No.	4	From	22-Jan-2020	To	28-Jan-2020
Test Certificate No.	4	Reference No.		WCW/IMS/QA/FM/08	
Dated	5-Feb-2020				

S.N.	Parameters	Results Obtained	Requirement as per IS 269 : 2015 (Variety: OPC 53)
1	Chemical Composition		
	Lime Saturation Factor ($\text{CaO} - 0.7 \cdot \text{SO}_3$) / ($2.8 \cdot \text{SiO}_2 + 1.2 \cdot \text{Al}_2\text{O}_3 + 0.65 \cdot \text{Fe}_2\text{O}_3$)	0.90	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)	0.50	Not more than 5.0 %
	Magnesia (% by mass)	0.90	Not more than 6.0 %
	Sulphuric Anhydride (% by mass)	2.90	Not More than 3.5 %
	Total loss on Ignition (%)	1.50	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)	314	Not Less than 225
3	Compressive Strength (MPa)		
	72 $\pm$ 1h (3 Days)	39.3	Not less than 27.0
	168 $\pm$ 2h (7 Days)	48.7	Not less than 37.0
	672 $\pm$ 4h (28 Days) *	Awaited	Not less than 53.0
4	Setting Time (Minutes)		
	Initial	180	Not less than 30
	Final	230	Not more than 600
5	Soundness		
	Le-Chatelier Expansion (mm)	1.00	Not more than 10.0
	Auto-Clave Expansion (%)	0.060	Not more than 0.8
6	Normal Consistency (%)	27.50	
	Temp. During Testing (0C)	27.00	(27 $\pm$ 2)0C

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

Manager (QA)

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