



**WORK TEST CERTIFICATE**

**53 Grade Ordinary Portland Cement**

Despatched during Week No.	24	From	11-Jun-2021	To	17-Jun-2021
Test Certificate No.	24	Reference No.		WCW/IMS/QA/FM/17	
Dated	16-Jul-2021				
S.N.	Parameters	Results Obtained	Requirement as per IS 269 : 2015 (Variety: OPC 53)		
<b>Chemical Composition</b>					
1	Lime Saturation Factor ( $\text{CaO} - 0.7 * \text{SO}_3$ ) / ( $2.8 * \text{SiO}_2 + 1.2 * \text{Al}_2\text{O}_3 + 0.65 * \text{Fe}_2\text{O}_3$ )	0.90	Not greater than 1.02 and not less than 0.80		
	Ratio of % Alumina to that of Iron Oxide $\text{Al}_2\text{O}_3 / \text{Fe}_2\text{O}_3$	1.27	Not less than 0.66		
	Insoluble Residue (% by mass)	0.78	Not more than 5.0 %		
	Magnesia (% by mass)	0.87	Not more than 6.0 %		
	Sulphuric Anhydride (% by mass)	2.78	Not More than 3.5 %		
	Total loss on Ignition (%)	1.72	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		
	<b>Physical Analysis</b>				
2	<b>Fineness</b>				
	Blaine's Specific Surface Area (m <sup>2</sup> / kg)	319	Not Less than 225		
3	<b>Compressive Strength (MPa)</b>				
	72 ± 1h (3 Days)	36.1	Not less than 27.0		
	168 ± 2h (7 Days)	46.3	Not less than 37.0		
	672 ± 4h (28 Days) *	60.8	Not less than 53.0		
4	<b>Setting Time (Minutes)</b>				
	Initial	150	Not less than 30		
	Final	230	Not more than 600		
5	<b>Soundness</b>				
	Le-Chatelier Expansion (mm)	1.00	Not more than 10.0		
	Auto-Clave Expansion (%)	0.080	Not more than 0.8		
6	Normal Consistency (%)	27.50			
	Temp. During Testing (0C)	27.00	(27 ± 2)0C		

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

Limestone (5%) added as Performance Improver

Manager (QA)

DGM QC

Registered Office: Cement House, 121, Maharishi Karve Road, Mumbai - 400020