



## 53 Grade Ordinary Portland Cement

Despatched during Week No.	23	From	3-Jun-2020	To	9-Jun-2020
Test Certificate No.	23	Reference No.			<b>WCW/IMS/QA/FM/08</b>
Dated	8-Jul-2020				
S.N.	Parameters	Results Obtained	Requirement as per IS 269 : 2015 (Variety: OPC 53)		
1	<b>Chemical Composition</b>				
	Lime Saturation Factor (CaO - 0.7 *SO3) / (2.8* SiO2 + 1.2* Al2O3 + 0.65* Fe2O3)	0.90	Not greater than 1.02 and not less than 0.80		
	Ratio of % Alumina to that of Iron Oxide Al2O3 / Fe2O3	1.27	Not less than 0.66		
	Insoluble Residue (% by mass)	0.50	Not more than 5.0 %		
	Magnesia (% by mass)	0.80	Not more than 6.0 %		
	Sulphuric Anhydride (% by mass)	2.85	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		
<b>Physical Analysis</b>					
2	<b>Fineness</b>				
	Blaine's Specific Surface Area (m2 / kg)	313	Not Less than 225		
3	<b>Compressive Strength (MPa)</b>				
	72 ± 1h (3 Days)	38.6	Not less than 27.0		
	168 ± 2h (7 Days)	48.4	Not less than 37.0		
	672 ± 4h (28 Days) *	61.6	Not less than 53.0		
4	<b>Setting Time (Minutes)</b>				
	Initial	170	Not less than 30		
	Final	220	Not more than 600		
5	<b>Soundness</b>				
	Le-Chatelier Expansion (mm)	1.00	Not more than 10.0		
	Auto-Clave Expansion (%)	0.070	Not more than 0.8		
6	Normal Consistency (%)	27.00			
	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*

Granulated Slag (4%) & Limestone (1%) added as Performance Improver

Manager (QA)