



WORK TEST CERTIFICATE



53 Grade Ordinary Portland Cement

hed during Week No.	29	From	16-Ju	I-2019	То	22-Jul-2019
tificate No.	29	Deferrer				
	8/20/2019		;e No.		WCW/IMS/QA/FM/08	
Parameters		Results Obtained	Requirement as per IS 269 : 2015 (Variety: OPC 53)			
Chemical Composition	on		1	1		
Lime Saturation Factor (CaO – 0.7 *SO3) / (2.8* SiO2 + 1.2* Al2O3 + 0.65* Fe2O3)			0.88	Not greater than 1.02 and not less than 0.80		
Ratio of % Alumina to that of Iron Oxide Al2O3 / Fe2O3			1.22	Not less than 0.66		
Insoluble Residue (% by mass)			0.54	Not more than 5.0 %		
Magnesia (% by mass)			0.96	Not more than 6.0 %		
Sulphuric Anhydride (%	% by mass)	3.01	Not More than 3.5 %			
Total loss on Ignition (%)	1.59	Not More than 4.0 %			
Chloride Content (%)			0.013	Not more than 0.1 % for general purpose & not more than 0.05 % for pre-stressed structures		
Physical Analysis				•		
Fineness						
2 Blaine's Specific Surface Area (m2 / kg)			300	Not Less than 225		
Compressive Strengt	:h (MPa)					
72 ± 1h (3 Days)			36.5	Not less than 27.0		
168 ± 2h (7 Days)			47.5	Not less than 37.0		
672 ± 4h (28 Days) *			59.5	Not less than 53.0		
Setting Time (Minutes	s)					
Initial			132	Not less than 30		
Final			192	Not more than 600		
Soundness						
Le-Chatelier Expansion	n (mm)		1.07	Not more than 10.0		
Auto-Clave Expansion (%)			0.077	Not more than 0.8		
6 Normal Consistency (%)						
Normal Consistency (%	%)		27.80			
	tificate No. Pa Chemical Composition Lime Saturation Factor (CaO – 0.7 *SO3) / (2.8* Si Ratio of % Alumina to Al2O3 / Fe2O3 Insoluble Residue (% M Magnesia (% by mass Sulphuric Anhydride (% Total loss on Ignition (% Chloride Content (%) Physical Analysis Fineness Blaine's Specific Surfa Compressive Strengt 72 ± 1h (3 Days) 168 ± 2h (7 Days) 672 ± 4h (28 Days) * Setting Time (Minutes) Initial Final Soundness Le-Chatelier Expansion	tificate No. 29 8/20/2019 8/20/2019 Parameters Chemical Composition Lime Saturation Factor (CaO - 0.7 *SO3) / (2.8* SiO2 + 1.2* Al2O3 + 0.6 Ratio of % Alumina to that of Iron Oxide Al2O3 / Fe2O3 Insoluble Residue (% by mass) Magnesia (% by mass) Sulphuric Anhydride (% by mass) Sulphuric Anhydride (% by mass) Sulphuric Anhydride (% by mass) Total loss on Ignition (%) Chloride Content (%) Physical Analysis Fineness Blaine's Specific Surface Area (m2 / kg) Compressive Strength (MPa) 72 ± 1h (3 Days) 168 ± 2h (7 Days) 672 ± 4h (28 Days) * Setting Time (Minutes) Initial Final Soundness Le-Chatelier Expansion (mm)	tificate No.	tificate No. 29 Reference No. 8/20/2019 Reference No. Reference No. Chemical Composition Lime Saturation Factor (CaO – 0.7 *SO3) / (2.8* SIO2 + 1.2* AI2O3 + 0.65* Fe2O3) 0.88 Ratio of % Alumina to that of Iron Oxide AI2O3 / Fe2O3 0.88 Insoluble Residue (% by mass) 0.54 Magnesia (% by mass) 0.96 Sulphuric Anhydride (% by mass) 3.01 Total loss on Ignition (%) 1.59 Chloride Content (%) 0.013 Physical Analysis 59 Fineness 300 Compressive Strength (MPa) 300 72 ± 1h (3 Days) 36.5 168 ± 2h (7 Days) 47.5 672 ± 4h (28 Days) * 59.5 Setting Time (Minutes) 1132 Initial 132 Final 192 Soundness Le-Chatelier Expansion (mm) 1.07	29 Reference No. 8/20/2019 Reference No. Chemical Composition Requirer Lime Saturation Factor (CaO - 0.7 *SO3) / (2.8* SiO2 + 1.2* AI2O3 + 0.65* Fe2O3) 0.88 Not greater Ratio of % Alumina to that of Iron Oxide AI2O3 / Fe2O3 1.22 Not less that Insoluble Residue (% by mass) 0.54 Not more th Magnesia (% by mass) 0.96 Not more th Sulphuric Anhydride (% by mass) 3.01 Not More th Total loss on Ignition (%) 1.59 Not more th Chorressive Strength (MPa) 0.013 Not more th 72 ± 1h (3 Days) 36.5 Not less th 168 ± 2h (7 Days) * 59.5 Not less th 672 ± 4h (28 Days) * 59.5 Not less th Initial 132 Not less th Final 192 Not more th Soundness	29 Reference No. WCW 8/20/2019 Reference No. WCW Parameters Results Obtained Requirement as per (Variety: Chemical Composition Lime Saturation Factor (CaO - 0.7 *SO3) / (2.8* SIO2 + 1.2* AI2O3 + 0.65* Fe2O3) 0.88 Not greater than 1.02 ar Ratio of % Alumina to that of Iron Oxide AI2O3 / Fe2O3 1.22 Not less than 0.66 Insoluble Residue (% by mass) 0.54 Not more than 5.0 % Magnesia (% by mass) 0.96 Not more than 0.66 Insoluble Residue (% by mass) 0.96 Not more than 0.66 Insoluble Residue (% by mass) 0.96 Not more than 0.66 Sulphuric Anhydride (% by mass) 3.01 Not More than 3.5 % Total loss on Ignition (%) 1.59 Not More than 0.1 % for more than 0.05 % for pre- Physical Analysis Fineness Interess Blaine's Specific Surface Area (m2 / kg) 300 Not Less than 225 Compressive Strength (MPa) 72 ± 1h (3 Days) * 36.5 Not less than 37.0 672 ± 4h (28 Days) * 59.5 Not less than 53.0 Setting Time (Minutes) Initial 132 Not more than 600 Soundness Initial </td

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

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Manager (QA)