

## ENGINEERED FOR DURABILITY

TEST CERTIFICATE		Week No	23
ORDINARY PORTLAND CEMENT 53G		Year	2022
SAMPLE	RESULT OBTAINED	REQUIREMENT	
TEST TYPE	FROM TEST	IS : 269-2015	
<b>PHYSICAL REQUIREMENTS</b>			
1. Fineness -Blaine(M <sup>2</sup> /Kg)	281	Not less than 225 M <sup>2</sup> /Kg	
<b>2.Soundness:</b>			
A.Autoclave Expansion (%)	0.054	Not more than 0.8 %	
B.Le Chatelier Expansion (in mm)	1.00	Not more than 10 mm	
<b>3.Setting Time (in minutes)</b>			
A.Initial	150	Not less than 30 minutes	
B.Final	220	Not more than 600 minutes	
<b>4.Compressive Strength (MPa)</b>			
A.72 ± 1 hr.(3 days)	33.9	Not Less than 27 MPa	
B.168 ± 2 hr.(7 days)	44.7	Not Less than 37 MPa	
C.672 ± 4 hr.(28 days)	59.9	Not Less than 53 MPa	
<b>CHEMICAL REQUIREMENTS</b>			
1.Loss on Ignition (% by mass)	1.33	4 % Maximum	
2.Insoluble Residue (% by mass)	4.51	5 % Maximum	
3.Magnesium Oxide (MgO) (% by mass)	1.38	6.0 % Maximum	
4.Total Sulphur content calculated as (SO <sub>3</sub> ) (% by mass)	2.84	3.5 % Maximum	
5.Chlorides (% by mass)	0.015	0.10 % Maximum	
<b>6.Lime Saturation Factor</b>			
<u>Cao - 0.7 So<sub>3</sub></u> (2.8 SiO <sub>2</sub> + 1.2 AL <sub>2</sub> O <sub>3</sub> +0.65Fe <sub>2</sub> O <sub>3</sub> )	0.84	0.80 to 1.02	
7.A/F (Al <sub>2</sub> O <sub>3</sub> / Fe <sub>2</sub> O <sub>3</sub> )	1.37	0.66 Minimum	
8.Performance Improver Fly Ash (%)	5.00	5.0 % Maximum	
Water required for paste of standard consistency (%)		<b>28.50</b>	

The above cement complies with the requirements of IS 269 : 2015 For ORDINARY PORTLAND CEMENT 53G

Computer generated Report, hence Signature is not required

For BIS certification details see website bis.org.in

For Zuari Cement Ltd  
**MANAGER (QC)**