

**HEIDELBERGCEMENT**

**Zuari Cement Ltd**  
SOLAPUR GRINDING UNIT  
SOLAPUR, MAHARASHTRA



## ENGINEERED FOR DURABILITY

TEST CERTIFICATE		Week No	25
ORDINARY PORTLAND CEMENT 53G		Year	2022
SAMPLE TEST TYPE	RESULT OBTAINED FROM TEST	REQUIREMENT IS : 269-2015	
<b>PHYSICAL REQUIREMENTS</b>			
1. Fineness -Blaine(M <sup>2</sup> /Kg)	282	Not less than 225 M <sup>2</sup> /Kg	
<b>2.Soundness:</b>			
A.Autoclave Expansion (%)	0.053	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	145	Not less than 30 minutes	
B.Final	215	Not more than 600 minutes	
<b>4.Compressive Strength (MPa)</b>			
A.72 ± 1 hr.(3 days)	33.8	Not Less than 27 MPa	
B.168 ± 2 hr.(7 days)	44.0	Not Less than 37 MPa	
C.672 ± 4 hr.(28 days)	UT	Not Less than 53 MPa	
<b>CHEMICAL REQUIREMENTS</b>			
1.Loss on Ignition (% by mass)	1.44	4 % Maximum	
2.Insoluble Residue (% by mass)	4.48	5 % Maximum	
3.Magnesium Oxide (MgO) (% by mass)	1.36	6.0 % Maximum	
4.Total Sulphur content calculated as (SO <sub>3</sub> ) (% by mass)	2.56	3.5 % Maximum	
5.Chlorides (% by mass)	0.016	0.10 % Maximum	
<b>6.Lime Saturation Factor</b>			
$\frac{CaO - 0.7 So_3}{(2.8 SiO_2 + 1.2 Al_2O_3 + 0.65 Fe_2O_3)}$	0.85	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)**