

**HEIDELBERGCEMENT****Zuari Cement**  
HEIDELBERGCEMENT Group**Zuari Cement Ltd**  
SOLAPUR GRINDING UNIT  
SOLAPUR, MAHARASHTRA**IS 1489**  
  
**PART-1**  
**CML-7500042507****ENGINEERED FOR DURABILITY**

TEST CERTIFICATE		Week No	21
PORTLAND POZZOLANA CEMENT		Year	2022
SAMPLE TEST TYPE	RESULT OBTAINED FROM TEST	REQUIREMENT	IS-1489(PART-1):2015

**PHYSICAL REQUIREMENTS**

1. Fineness -Blaine(M <sup>2</sup> /Kg)	325	Not less than 300 M <sup>2</sup> /Kg
<b>2.Soundness:</b>		
A.Autoclave Expansion (%)	0.013	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	155	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)	21.5	Not Less than 16 MPa
B.168 ± 2 hr.(7 days)	30.4	Not Less than 22 MPa
C.672 ± 4 hr.(28 days)	UT	Not Less than 33 MPa
5.Dry Shrinkage %	UT	Not more than 0.15 %

**CHEMICAL REQUIREMENTS**

1.Loss on Ignition (% by mass)	1.23	5 % Maximum
<b>2.Insoluble Residue (% by mass)</b>		
A.Max	31.70	$x+4(100-x)/100$
B.Min		$x*0.6$
		where <b>x</b> is the declared % Fly ash in the given Portland Pozzolana Cement
3.Magnesium Oxide (MgO) (% by mass)	1.25	6.0 % Maximum
4.Total Sulphur content calculated as (SO <sub>3</sub> ) (% by mass)	2.38	3.5 % Maximum
5.Chlorides (% by mass)	0.013	0.10 % Maximum
6.Declared % Fly Ash	35.00	15.0% TO 35.0 %

Water required for paste of standard consistency (%) **30.50**

The above cement complies with the requirements of IS 1489(PART-1) : 2015 For PORTLAND POZZOLANA CEMENT

Computer generated Report, hence Signature is not required  
For BIS certification details see website bis.org.inFor Zuari Cement Ltd  
**MANAGER (QC)**