



TEST CERTIFICATE

PORTLAND POZZOLANA CEMENT (MASTER)

Date of Issue : 01/01/2019

Sample Description : Week No.- 47/ 2018

Despatch Period : 19/11/2018 to 25/11/2018

S.No.	Test Carried Out	Requirement as Per IS: 1489 (Part-1)- 2015	Result Obtained
CHEMICAL TESTING			
1	Total Loss on Ignition (% by mass)	5.0 % Max	2.34
	Magnesia (% by mass)	6.0 % Max	2.52
	Sulphuric Anhydride (% by mass)	3.50 % Max	2.69
	Chloride (% by mass)	0.10 % Max	0.002
	Insoluble Residue (% by mass)	Maximum $X + (4.0 (100-X) / 100)$ Minimum 0.6X Where "X" is the declared % of Fly Ash in given Portland Pozzolana Cement.	30.60
PHYSICAL TESTING			
2	Fineness		
	Specific Surface (m ² / Kg)	Minimum 300	384
3	Normal Consistency (%)	-	31.50
4	Setting Time (minutes)		
	a) Initial	Minimum 30	160
	b) Final	Maximum 600	230
5	Soundness		
	a) Le-Chatlier Expansion (mm)	Maximum 10	0.50
	b) Autoclave Expansion (%)	Maximum 0.8	0.04
6	Compressive Strength (Mpa)		
	a. 24.0 hr. (1 day)	NA	18.5
	b. 72 +/- 1 hr. (3 days)	Minimum 16	34.1
	c. 168 +/- 2 hr. (7 days)	Minimum 22	44.2
	d. 672 +/- 4hr. (28 days)	Minimum 33	59.0
7	Drying Shrinkage (%)	Maximum 0.15	0.02
8	Fly Ash in Cement (%)	Minimum 15 % and Maximum 35 %	35.0

Environment condition during test , Temperature =27±2°C and RH >65%

The above cement complies with the requirements of IS 1489 (Part-1) : 2015 for Portland Pozzolana Cement.

Prepared by

Authorised Signatory