



EMAMI CEMENT LIMITED, PANAGARH

(A Unit of Emami Group)
Village : - Kotagram, Panagarh



TEST CERTIFICATE PORTLAND SLAG CEMENT (SUBH)

Date of Issue : 01/01/2019

Sample Description : Week No.- 48/ 2018

Despatch Period : 26/11/2018 to 02/12/2018

S.No.	Test Carried Out	Requirement as Per IS: 455-2015	Result Obtained
CHEMICAL TESTING			
1	Total Loss on Ignition (% by mass)	5.0 % Max	1.54
	Magnesia (% by mass)	10.0 % Max	5.18
	Sulphuric Anhydride(SO ₃) (% by mass)	3.50 % Max	2.77
	Chloride (% by mass)	0.10 % Max	0.002
	Sulphide Sulphur (S)	1.5% Max	0.58
	Insoluble Residue (% by mass)	4.0% Max	1.16
PHYSICAL TESTING			
2	Fineness		
	Specific Surface (m ² / Kg)	Minimum 225	379
3	Normal Consistency (%)	-	30.50
4	Setting Time (minutes)		
	a) Initial	Minimum 30	160
	b) Final	Maximum 600	225
5	Soundness		
	a) Le-Chatlier Expansion (mm)	Maximum 10	0.5
	b) Autoclave Expansion (%)	Maximum 0.8	0.03
6	Compressive Strength (Mpa)		
	a. 24.0 hr. (1 day)	NA	16.4
	b. 72 +/- 1 hr. (3 days)	Minimum 16	30.9
	c. 168 +/- 2 hr.(7 days)	Minimum 22	45.0
	d. 672 +/- 4 hr. (28 days)	Minimum 33	60.1
7	Slag in Cement (%)	Minimum 25 % and Maximum 70 %	60

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

The above cement complies with the requirements of IS 455 : 2015 for Portland Slag Cement.

Prepared by

Authorised Signatory