

: H 129821  
: 19.06.2017



**NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS**  
INDEPENDENT TESTING LABORATORIES, HYDERABAD



C.No.T-0953

**TEST CERTIFICATE**

Sample : Said to be PSC Condition of sample : Satisfactory  
Customer's Name & Address : M/s. Emami Cement Ltd., Emami Tower, 687 Anandapur, EM Bypass,  
Kolkata – 700107.  
Laboratory Mark : TSH-170067 Identification : Yr Ltr dated 05.04.2017  
Date of performance of Test : 16.05.2017 to 15.06.2017 Date of Receipt : 28.04.2017  
Tested as per : IS: 4032-1985 Specification : IS : 455-2015

Sl.No. Tests Carried Out Results Obtained

**CHEMICAL ANALYSIS**


<u>Constituents Determined</u>		<u>Percentage by Weight</u>	
		<u>Specific requirements</u>	<u>Results obtained</u>
1	Magnesia (MgO)	10.0 (max)	5.09
2	Sulphuric Anhydride (SO <sub>3</sub> )	3.50 (max)	2.16
3	Sulphide Sulphur (S)	1.50 (max)	0.30
4	Loss on Ignition	5.0 (max)	0.62
5	Insoluble Residue	4.0 (max)	1.87
6	Total Chlorides	0.1 (max)	0.005

**Conditions:**

1. Results given above refer to the sample supplied.
2. This report is being issued on the specific understanding that NCB will not in any way be involved in any action following interpretation of the above results.
3. This report shall not be reproduced except in full without written approval from NCB.
4. Corresponding requirements in accordance with recognized standards are available from NCB on specific request.
5. The balance quantity of the tested sample wherever possible shall be retained only for a period of **Two months** from the date of issue of the Test Certificate.

-- End --

  
(T. MOHAN RAO)  
Authorised Signatory

  
K.S. DURGA PRASAD  
QUALITY MANAGER  
Centre for Cement Research  
and Independent Testing

NCB Bhavan, Old Bomhay Road, Hyderabad 500 008 (TS), INDIA

emami **DOUBLE BULL** CEMENT



Mazbooti Ummeed Se Zyada.

No : H 129820

Date : 19.06.2017



NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS  
INDEPENDENT TESTING LABORATORIES, HYDERABAD



C.No.T-0954

**TEST CERTIFICATE**

Sample : Said to be PSC Condition of sample : Satisfactory  
Customer's Name & Address : M/s. Emami Cement Ltd., Emami Tower, 687 Anandapur, EM Bypass,  
Kolkata – 700107.  
Laboratory Mark : TSH-170066 Identification : Yr Ltr dated 05.04.2017  
Date of performance of Test : 03.05.2017 to 31.05.2017 Date of Receipt : 28.04.2017  
Tested as per : IS: 4031-1988 Specification : IS: 455-2015

Sl.No	Tests Carried Out	Results Obtained		
		Specific requirements	Results obtained	
1.	Fineness (Blaine)	225 (min)	411	m <sup>2</sup> /kg
2.	Setting Time	- Initial	30 (min)	155 Minutes
		- Final	600 (max)	195 minutes
3.	Soundness	- Le Chatelier Expansion	10 (max)	1.00 mm
		- Autoclave Expansion	0.8 (max)	-0.03 Percent
4.	Compressive strength at	- 72 ± 1 hrs	16 (min)	26.0 MPa
		- 168 ± 2 hrs	22 (min)	38.5 MPa
		- 672 ± 4 hrs	33 (min)	52.5 MPa

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- 4 Corresponding requirements in accordance with recognised standards are available from NCB on specific request.
- 5 The balance quantity of the tested sample wherever possible shall be retained only for a period of **Two months** from the date of issue of the Test Certificate.

-- End --

(P. MOHAN RAO)  
Authorised Signatory

K.S. DURGA PRASAD  
QUALITY MANAGER  
Centre for Cement Research  
and Independent Testing

NCB Bhavan, Old Bombay Road, Hyderabad 500 008 (TS), INDIA

emami **DOUBLE BULL** CEMENT

Mazbooti Ummeed Se Zyada.

IS 455 : 2015



CML - 5900018372

**EMAMI CEMENT LIMITED, RISDA**

(A Unit of Emami Group)

Village : - Risda, Suhela Road

Dist : Baloda Bazar- 493 332 (C.G.)



## TEST CERTIFICATE PORTLAND SLAG CEMENT

Date of Issue : 02/01/2018

Sample Description : W48 M11 (12) Y17      Despatch Period : 26/11/2017 to 02/12/2017

S.No.	Test Carried Out	Requirement as Per IS: 455 - 2015	Result Obtained
<b>CHEMICAL TESTING</b>			
1	Total Loss on Ignition (% by mass)	5.0 Max	2.90
	Magnesia ( % by mass)	10.0 Max	4.99
	Sulphuric Anhydride ( % by mass)	3.5 Max	2.86
	Sulphide Sulphur ( % by mass)	1.50 Max	0.57
	Chloride (% by mass)	0.10 Max	0.010
	Insoluble Residue ( % by mass )	4.0 Max.	2.40
<b>PHYSICAL TESTING</b>			
2	Fineness ( m <sup>2</sup> / Kg )	Minimum 225	402
3	Normal Consistency (%)	-	29.50
<b>Setting Time (minutes)</b>			
4	a) Initial	Minimum 30	135
	b) Final	Maximum 600	190
<b>Soundness</b>			
5	a) Le-Chatlier Expansion (mm)	Maximum 10	1.0
	b) Autoclave Expansion (%)	Maximum 0.8	0.06
<b>Compressive Strength (Mpa)</b>			
6	a. 72 +/- 1 hr. ( 3 days)	Minimum 16	33.8
	b. 168 +/- 2 hr.( 7 days)	Minimum 22	44.9
	c. 672 +/- 4hr. ( 28 days)	Minimum 33	54.8
7	Slag in Cement (%)	Minimum 25 and Maximum 70	50.00

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

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

*Vijay Gang*  
Prepared by

*P.P. Sengupta*  
Authorised Signatory

Regd. Office : Emami Tower , 2nd Floor , 687 Anandpur, E.M. Bypass, Kolkata- 700107

emami\* **DOUBLE BULL** CEMENT

Mazbooti Ummeed Se Zyada.

No : H 130044

Date : 25.09.2017



NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS  
INDEPENDENT TESTING LABORATORIES, HYDERABAD



C.No.T-0954

**TEST CERTIFICATE**

Sample : Said to be PSC Condition of sample : Satisfactory  
Customer's Name & Address : M/s. Emami Cement Limited, Panagarh Industrial Park, Kotagram,  
Dist – Burdwan, West Bengal - 713148.  
Laboratory Mark : TSH-170337 Identification : Yr ltr dated 17.07.2017  
Date of performance of Test : 16.08.2017 to 14.09.2017 Date of Receipt : 10.08.2017  
Tested as per : IS: 4031-1988 Specification : IS: 455-2015

Sl.No	Tests Carried Out	Results Obtained		
		Specific requirements	Results obtained	
1.	Fineness (Blaine)	225 (min)	394	m <sup>2</sup> /kg
2.	Setting Time	- Initial	30 (min)	210 Minutes
		- Final	600 (max)	250 minutes
3.	Soundness	- Le Chatelier Expansion	10 (max)	Nil mm
		- Autoclave Expansion	0.8 (max)	-0.03 Percent
4.	Compressive strength at	- 72 ± 1 hrs	16 (min)	29.5 MPa
		- 168 ± 2 hrs	22 (min)	42.0 MPa
		- 672 ± 4 hrs	33 (min)	55.0 MPa

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- 4 Corresponding requirements in accordance with recognised standards are available from NCB on specific request.
- 5 The balance quantity of the tested sample wherever possible shall be retained only for a period of **Two months** from the date of issue of the Test Certificate.

-- End --

*T. Mohan Rao*  
(T. MOHAN RAO)  
Authorised Signatory

*K.S. Durga Prasad*  
K.S. DURGA PRASAD  
QUALITY MANAGER  
Centre for Cement Research  
and Independent Testing

NCB Bhavan, Old Bombay Road, Hyderabad 500 008 (TS), INDIA

emami **DOUBLE BULL** CEMENT

Mazbooti Ummeed Se Zyada.

No : H 130045  
Date : 25.09.2017



NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS  
INDEPENDENT TESTING LABORATORIES, HYDERABAD



C.No.T-0953

**TEST CERTIFICATE**

Sample : Said to be PSC Condition of sample : Satisfactory  
Customer's Name & Address : M/s. Emami Cement Limited, Panagarh Industrial Park, Kotagram,  
Dist – Burdwan, West Bengal - 713148.  
Laboratory Mark : TSH-170338 Identification : Yr ltr dated 17.07.2017  
Date of performance of Test : 04.09.2017 to 12.09.2017 Date of Receipt : 10.08.2017  
Tested as per : IS: 4032-1985 Specification : IS : 455-2015

Sl.No.	Tests Carried Out	Results Obtained
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**CHEMICAL ANALYSIS**


Constituents Determined	Percentage by Weight	
	Specific requirements	Results obtained
1 Magnesia (MgO)	10.0 (max)	4.36
2 Sulphuric Anhydride (SO <sub>3</sub> )	3.50 (max)	2.72
3 Sulphide Sulphur (S)	1.50 (max)	0.18
4 Loss on Ignition	5.0 (max)	0.78
5 Insoluble Residue	4.0 (max)	1.51
6 Total Chlorides	0.1 (max)	0.006

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-- End --

  
(T. MOHAN RAO)  
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K.S. DURGA PRASAD  
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and Independent Testing

NCB Bhavan, Old Bombay Road, Hyderabad 500 008 (TS), INDIA

emami **DOUBLE BULL** CEMENT



Mazbooti Ummeed Se Zyada.

# EMAMI CEMENT LIMITED, PANAGARH

(A Unit of Emami Group)

Village : - Kotagram, Panagarh



## TEST CERTIFICATE PORTLAND SLAG CEMENT ( SUBH )

Date of Issue : 17/12/2017

Sample Description : Week No.- 46/ 2017

Despatch Period : 12/11/2017 to 18/11/2017

S.No.	Test Carried Out	Requirement as Per IS: 455-2015	Result Obtained
<b>CHEMICAL TESTING</b>			
1	Total Loss on Ignition (% by mass)	5.0 % Max	1.49
	Magnesia ( % by mass)	10.0 % Max	5.70
	Sulphuric Anhydride(SO <sub>3</sub> ) ( % by mass)	3.50 % Max	2.08
	Chloride (% by mass)	0.10 % Max	0.004
	Sulphide Sulphur (S)	1.5% Max	0.56
	Insoluble Residue (% by mass)	4.0% Max	1.52
<b>PHYSICAL TESTING</b>			
2	<b>Fineness</b>		
	Specific Surface ( m <sup>2</sup> / Kg )	Minimum 225	381
3	<b>Normal Consistency (%)</b>	-	29.00
4	<b>Setting Time (minutes)</b>		
	a) Initial	Minimum 30	185
	b) Final	Maximum 600	255
5	<b>Soundness</b>		
	a) Le-Chatlier Expansion (mm)	Maximum 10	0.5
	b) Autoclave Expansion (%)	Maximum 0.8	0.04
6	<b>Compressive Strength (Mpa)</b>		
	a. 24.0 hr. ( 1 day)	NA	16.5
	b. 72 +/- 1 hr. ( 3 days)	Minimum 16	30.1
	c. 168 +/- 2 hr.( 7 days)	Minimum 22	44.0
	d. 672 +/- 4 hr. (28 days)	Minimum 33	60.6
7	<b>Slag in Cement (%)</b>	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

Regd. Office : Emami Tower , 2nd Floor , 687 Anandpur, E.M. Bypass, Kolkata- 700107

emami **DOUBLE BULL** CEMENT



Mazbooti Ummeed Se Zyada.