

### MATERIALS LAB TEST CERTIFICATE

Office: 122/122-A, Hemkunt Chambers,  
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Issued To: The Project Manager-7C  
Delhi Metro Rail Corporation Ltd.,  
Office of the CPM/7, Opp. Frank Anthony Public School  
Lala Lajpat Rai Marg, Lajpat Nagar-IV,  
New-Delhi - 110024

Description: Said to be Admixture, Identification- ATCARPOL, S-79,  
(Base), Batch No 263

Report No: **(Supplementary) 30-091012-16**  
Report Date: 12/11/12  
Sample Received On: 09/10/12  
Sampled By: Customer  
Analysis Start Date: 09/10/12  
Analysis End Date: 12/11/12

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### RESULTS

#### IS 9103:1999 (Table 1B) Super plasticizer Retarding type (for high workability test mix)

Parameter	Test Method	Control	Mix B	Results	Requirement IS 9103:1999	Conformity
8. Flow	IS 9103:1999 (Annex-C)	-	585	585	510mm - 620mm	Yes
9. Loss of workability on standing slump, mm	IS 9103:1999	40.0	90.0	+ 50	At 2 hrs the slump shall be no less than that of control mix concrete at 15 min	Yes
10. Compressive Strength % of Control Mix Concrete						
7 days	IS 516:1959	16.44	15.50	94.3	90 Min	Yes
28 days		20.06	18.50	92.2	90 Min	Yes

Letter Ref. No. AESL/CC-15/3561/JKY/004, Dt-09/10/2012

Name of Work: Contract CC-15-Part Design & Construction of Elevated Viaduct from Ch.KM26.739 to 34.344 including entry exit line to depot, elevated ramp at Kalkaji & Special span and construction of six elevated stations including architectural finishing, water supply, sanitary installation and external development work etc. at Okhla Vihar Ph-III, Ishwar Nagar, Jamia Nagar, Okhla Vihar, Jasola Vihar and Kalindi Kunj on Janak Puri West- Biotechnical Garden Corridor of Ph-III of Delhi MRTS.

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**AUTHORISED SIGNATORY**

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- Notes:
- The results indicated only refer to the tested samples and listed parameters and do not endorse any product.
  - Total liability of the laboratory is limited to the invoiced amount.
  - This certificate shall not be reproduced wholly or in part without prior written consent of the laboratory.
  - The samples received shall be destroyed after four weeks from the date of issue of the certificate unless specified otherwise.
  - This certificate shall not be used in any advertising media or as evidence in the Court of Law without prior written consent of the laboratory.
  - Parameters marked as **Bold Italics** are not covered under our NABL scope & accreditation.

Regd. Office : S-335, Greater Kailash-II, New Delhi-110048  
TEST CERTIFICATE GENERAL (I)



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### RESULTS

IS 9103 - 1999 (Table 1A)  
Super plasticizer Retarding type (for water reduced concrete mix)

Dose of Admixture used = 1.2 % by weight of cement

	Parameter	Test Method	Control	Mix A	Results	Requirement IS 9103:1999	Conformity
1.	Water Content, % of Control Sample	IS 2386(P-3):1963	186.0	148.8	80.0	80 Max	Yes
2.	Time of setting, allowable deviation from control sample (minutes)						
	Initial	IS 8142 : 1976	325	445	+ 120	+ 240 Max + 60 Min	Yes
	Final		370	525	+ 155	+ 180 Max	Yes
3.	Compressive Strength % of control sample						
	3 days	IS 516: 1959	13.57	19.67	145.0	125 Min	Yes
	7 days		16.44	22.84	139.0	125 Min	Yes
	28 days		20.06	25.70	128.0	115 Min	Yes
4.	Flexural Strength % of control sample						
	3 days	IS 516: 1959	2.46	3.49	142.0	110 Min	Yes
	7 days		3.44	4.70	137.0	100 Min	Yes
	28 days		4.52	5.88	130.0	100 Min	Yes
5.	Length change % increase over control sample						
	28 days	IS 1199 : 1959	0.008	0.011	0.003	0.01 Max	Yes
6.	Bleeding % increase over control sample	IS 2386(P-3):1963/ IS 9103:1999 (Annex-D)	2.5	3.7	1.2	5.0 Max	Yes
7.	Air Content % over control	IS 1199 : 1959	1.2	1.9	0.7	1.5 Max	Yes

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TEST CERTIFICATE GENERAL (L)