



Test Order/Report No. BVIPL: CMD: 25941C/1165/1165/9/2018
Date of Receipt: 14.09.2018

Date: 20.11.2018
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DALMIA CEMENT (BHARAT) LIMITED

11th and 12th floor, Hansalaya Building, 15 Barakhamba Road, New Delhi-110001.

TEST REPORT ON CONCRETE GRADE M-80

Source of Sample : Sample supplied by the customer.
Number of sample Tested : 01 (One Only)
Customer's Reference : Email dt.12.09.2018
Condition of sample : Satisfactory
Lab Reference Number : 2018/SEP/278480
Concrete Mix Details : Cement (Dalmia infra green Flyash based PPC) +Admix (1A)
Date of Trial : 18.09.2018 TO 26.10.2018

1.The Properties of Design Mix for Grade M-80 concrete are tabulated below:

Sl.No	Particulars	Results
1	Mix proportion given as below # (SSD Condition)	
a	Water Cement ratio	0.206
b	Maximum Size of Aggregate(mm)	10
c	Cement (kg/m ³), Source : Dalmia infra green Flyash based PPC	540
d	10 mm (kg/m ³), Source : Navi mumbai	900
e	Crushed Sand (kg/m ³), Source : Navi mumbai	900
f	Water (kg/m ³), Source : Potable Water	111
g	Admixture (kg/m ³) (1.25%), Source : 1A	6.75
2	Water Absorption (%)	
a	10 mm	0.73
b	Crushed Sand	1.63
3	Properties of Fresh concrete	
a	Mix Texture	Cohesive Mix
b	Slump/flow/Workability	
	Initial Slump (mm)	Collapse
	30 Min. Slump (mm)	Collapse
	60 Min. Slump (mm)	Collapse
	90 Min. Slump (mm)	620
	120 Min. Slump (mm)	600
	150 Min. Slump (mm)	580
	180 Min. Slump (mm)	570

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4	Properties of Harden concrete	Results
a	Avg. Compressive Strength (N/mm ²) Cube (1 days)	33.3
b	Avg. Compressive Strength (N/mm ²) Cube (3 days)	51.0
c	Avg. Compressive Strength (N/mm ²) Cube (7 days)	68.1
d	Avg. Compressive Strength (N/mm ²) Cube (14 days)	74.4
e	Avg. Compressive Strength (N/mm ²) Cube (28 days)	90.4

2. CONCRETE DURABILITY TEST:28 Days

1	Properties of Harden concrete	Results	Technical Reference
a	Avg. Water permeability (mm)	6.0	EN-12390-2009 PART- 8
b	Avg. Drying Shrinkage (%)	0.025	IS-1199-1959 RA 2018
c	Avg. Moisture Movement (%)	0.017	
d	Avg. Initial Surface Absorption test (ISAT) (ml/(m ² .s))	0.015	BS:1881-(Part-208) 1996
e	Modulus of elasticity (GPa)	40.1	ASTM C469/469M-14
f	Water Absorption (%)	1.45	BS:1881-(Part-122) 1983
g	Avg. Rapid Chloride Permeability Test (Coulombs)	754/Very Low	ASTM C 1202-2012

As furnished by the customer.

- Note :**
1. The Results relate only to the samples tested.
 2. Report shall not be reproduced, except in full, without the written approval of the lab.
 3. Any correction invalidates this report.

For **BUREAU VERITAS (INDIA) PVT LTD.**
Construction Services Laboratory



Sandip Patil
(Signature)
**Lab Incharge - Concrete
Authorised Signatory**



Dinesh Gaiwad
(Signature)
**Lab Incharge-Chemical
Authorised Signatory**

2018/CONC/W295