

TEST REPORT

(This Report is issued subject to the terms & conditions set out below)

SetSCO Services Pte Ltd
18 Teban Gardens Crescent
Singapore 608925
Tel : (65) 6566 7777
Fax: (65) 6566 7718
www.setsco.com
Business Reg. No. 196900269D

Your Ref: PO No: 152000125/H07

Our Ref: CT-40812/JAS

Date: 28/03/2018

Page 1 of 6

Subject : Tensile adhesion strength test after accelerated weathering of Dalmia Magic Premium Skim Coat (Prepacked Skimcoat) as requested by Dalmia Cement (Bharat) Ltd on 07/02/2018.

Tested for : **Dalmia Cement (Bharat) Ltd**
11th & 12th Floor
Hansalaya Building
15 Barakhamba Road
New Delhi 110001
India
Attn: Dr. Surjit Ghosh

Method of test : Tensile Adhesion Strength : BS EN 1015-12: 2000
(100 cycles of accelerated weathering, each cycle consists of 4 hours of UVA 340 lamps at 60°C followed by 10 minutes of water spray before Tensile adhesion strength test.)

Description of sample : One bag of Dalmia Magic Premium Skim Coat (Prepacked Skimcoat) weighing approximately 40kg was received.

3. Sur

9

Terms & Conditions:

- (1) The Report is prepared for the sole use of the Client and is prepared based upon the Item submitted, the services required by the Client and the conditions under which the Services are performed by SETSCO. The Report is not intended to be representative of similar or equivalent Services on similar or equivalent items. The Report does not constitute an endorsement by SETSCO of the item.
- (2) SETSCO agrees to use reasonable diligence in the performance of the Services but no warranties are given and none may be implied directly or indirectly relating to the Services, the Report or the facilities of SETSCO.
- (3) SETSCO shall under no circumstances be liable to the Client or its agents, servants or representatives, in contract, tort (including negligence or breach of statutory duty) or otherwise for any direct or indirect loss or damage suffered by the Client, its agents, servants or representative howsoever arising or whether connected with the Services provided by SETSCO herein.
- (4) The Report may not be used in any publicity material without the written consent of SETSCO.
- (5) The Report shall not be reproduced in part or in full unless approval in writing has been given by SETSCO.

*The results reported herein have been performed in accordance with the laboratory's terms of accreditation under the Singapore Accreditation Council. Cert No: LA-1994-0068-A, LA-1987-0001-B, LA-1993-0067-G, LA-1998-0144-D, LA-2000-0181-F, LA-2012-0519-E, LA-1993-0051-C-1



1. Preparation of Concrete substrates for Tensile Pull off Adhesion Strength Test

- Concrete substrates for pull off test** :
- 1) The mixing procedure for the concrete mixes were carried out in accordance with BS EN 480-1:2014.
 - 2) The slab of size 500 x 300 x 75mm thick with G40 concrete to be cured outdoor for 28 days for the application of skim coat.
 - 3) The results of the compressive strength of concrete substrates are given in Table 1.
 - 4) The surface water absorption test was conducted on these concrete substrates in accordance with BS EN 1323:2007. The results of surface water absorption test of the concrete substrates are given in Table 2.

Results :

Table 1: Compressive Strength Test

Sample Reference	Grade 40 Concrete			
	1	2	3	4
Cube Specimen Reference	1	2	3	4
Age at Test (days)	7		28	
Compressive Strength (N/mm ²)	37.2	38.9	46.6	47.5
Average Compressive Strength (N/mm ²)	38.1		47.1	

Table 2: Surface Water Absorption Test on Concrete Substrate

Sample Reference	Grade 40 Concrete		
	1	2	3
Spot Test Reference	1	2	3
Surface Water Absorption (cm ³)	1.02	0.98	1.01
Average Surface Water Absorption (cm ³)	1.00		

B. Jee



2. Preparation of Pull-off Adhesion Strength Test

Mix Proportion : As specified by the clients, the mix proportion of the skim coat by weight is as follows:

Dalmia Magic Premium Skim Coat (Powder)	-	1 part
Water	-	0.43 parts

Mixing and Application Procedure :

- 1) The two components were weighed in the above ratio and water was poured into the mixing bowl.
- 2) The powder was added while mixing within 30 seconds. The mixer was stopped and the side/bottom were scrapped within 30 seconds. It was then remixed simultaneously by Hobart mixer for 3 minutes at low speed.
- 3) The compound was applied onto the moulded face of the slab in a vertical direction by a trowel, to a maximum thickness of 3mm, and cured under a shaded ambient condition.

3. Curing of Test Specimens

Curing Procedure :

- 1) The applied test-slab was cured under shaded ambient condition for 14 days.
- 2) After 14 days curing the applied test-slab was subjected to 100 cycles of accelerated weathering, each cycle consists of 4 hours of UVA 340 lamps at 60°C followed by 10 minutes of water spray before tensile adhesion strength was conducted.

Test Results : The results of tensile adhesion strength after accelerated weathering are given in Table 3.

B. S.



Table 3: Tensile Adhesion Strength after Accelerated Weathering

Sample Reference	Dalmia Magic Premium Skim Coat											
Specimen Reference	1	2	3	4	5	6	7	8	9	10	11	12
Flow (mm)	180											
Curing Condition	14 days under shaded ambient condition follow by 100 cycles of accelerated weathering											
Observation after weathering	Applied skim coat shows no discoloration or cracks											
Bond Area (mm ²)	1963											
Date of Application	12/02/2018											
Date of Test	27/03/2018											
Age at Test (days)	43											
Tensile Adhesion Strength (N/mm ²)	0.90	0.90	0.90	0.90	0.80	0.85	0.90	0.90	0.90	0.90	0.80	0.90
Average Tensile Adhesion Strength (N/mm ²)	0.9											
Mode of Failure	Cohesion Fracture (Fracture in the mortar itself)											

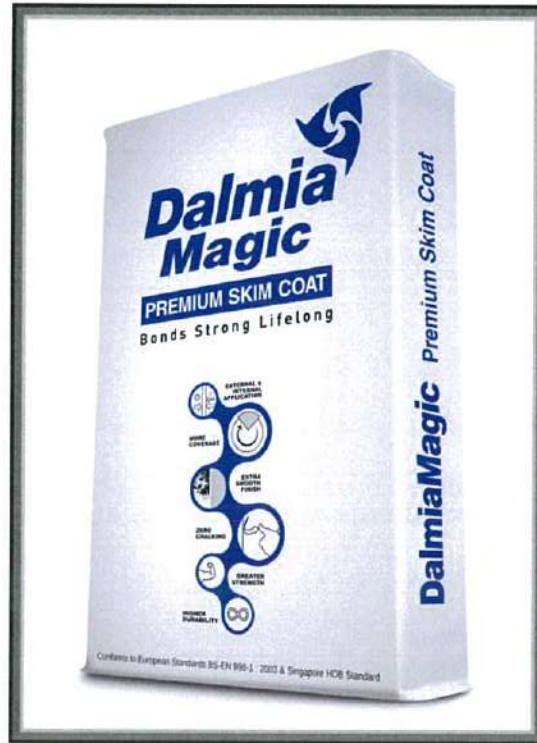
Remark: See photograph 3 for reference



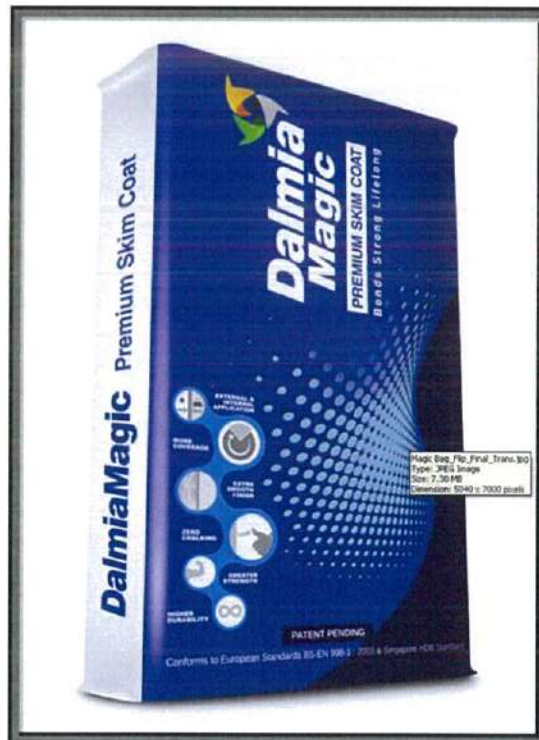
Suresh Mehnar
Testing Officer



Jasbeer Singh
Engineer (CMTD)
Construction Technology Division



Photograph 1: shows one bag of Dalmia Magic Premium Skim Coat (White Bag).



Photograph 2: shows one bag of Dalmia Magic Premium Skim Coat (Blue Bag).

S. Suresh





Photograph 3: shows tensile adhesion strength test after accelerated weathering.

B. *[Signature]*

[Handwritten mark]