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தேசிய கட்டிட ஆராய்ச்சி நிறுவனம்
NATIONAL BUILDING RESEARCH ORGANISATION



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මගේ අංකය }
எனது இல. } 202422 0143
Our Ref. }

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Your Ref. }

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திகதி } 28.03.2022
Date }

TESTING OF PLASTER MATERIALS

REPORT NO. : M/22/ 018 C
(Reference of Requisition: Letter received on 21st January 2022)

PROJECT : NOT INTIMATED

ISSUED TO : GB COATINGS (PVT) LTD
NO. 468/ 1/ B, RAJASINGHE MAWATHA
MULLERIYAWA

ISSUED BY : BUILDING MATERIALS RESEARCH AND
TESTING DIVISION
NATIONAL BUILDING RESEARCH ORGANISATION
99/1, JAWATTA ROAD, COLOMBO 05

*The test results reported herein
relate to the specimens submitted
to N.B.R.O. and do not certify the
quality of a product in general*

**NATIONAL BUILDING RESEARCH ORGANISATION
BUILDING MATERIALS RESEARCH & TESTING DIVISION
NO. 99/1, JAWATTA ROAD,
COLOMBO 05.**

202422 0143

TESTING OF PLASTER MATERIALS**REPORT NO. : M/22/ 018 C**

01. SAMPLES RECEIVED ON : 21.01.2022
02. DESCRIPTION OF SAMPLES : (a) Nos. received : 20 kg sealed bag
- (b) Product* : Luxes Clay Cement Wall Finish
(Exterior & Interior)
- (c) Brand* : Luxes Coatings



(*as intimated by the client)

03. TEST REQUESTED : 1. Flexural and Compressive Strength
2. Initial Setting Time
3. Adhesive Strength
4. Drying Shrinkage
04. AMOUNT OF WATER USED FOR PREPARING PLASTER : Powder: Water – 1kg: 450g
(As intimated by the client)
05. TESTS CARRIED OUT IN ACCORDANCE WITH :
1. BS EN 1015-11:1999
Methods of test for mortar for masonry
Determination of flexural and compressive strength of hardened mortar
 2. BS EN 196 : 2005- Methods of Testing Cement
Part 3 – Determination of Setting Times & Soundness
 3. BS EN 1015-12:2000
Methods of test for mortar for masonry
Determination of adhesive strength of hardening and plastering mortars on substrate
 4. ASTM C1148 – 92a
Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar

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06. TEST RESULT

6.1 Flexural and Compressive Strength

Casting date : 26.01.2022
Testing date : 23.02.2022
Age at testing : 28 days

Table 01: Flexural & Compressive strength 28 day test results

Test Number	Flexural Strength (N/mm ²)	Compressive Strength (N/mm ²)
1-1	1.17	3.2
1-2		3.1
2-1	1.00	3.3
2-2		3.6
3-1	0.92	3.1
3-2		3.5
Average	1.03	3.3

*Manual compaction was applying due to the rapid hardening of the material.

6.2 Initial Setting Time*Table 02: Initial setting time test results*

Plaster mix (g)	500
Water (ml)	225
Start time	9.33 a.m.
Initial reading time	9.36 a.m.
Initial setting time	05 minutes

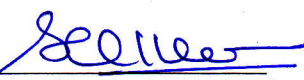
Testing Officer: 

S.A.D.A.S. Suraweera
Scientist

Checked by: 

R. Savitha
Senior Engineer

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Certified by: 

Mrs. (Eng.) S.S.K. Muthurathne
Director
Building Materials Research & Testing
Division

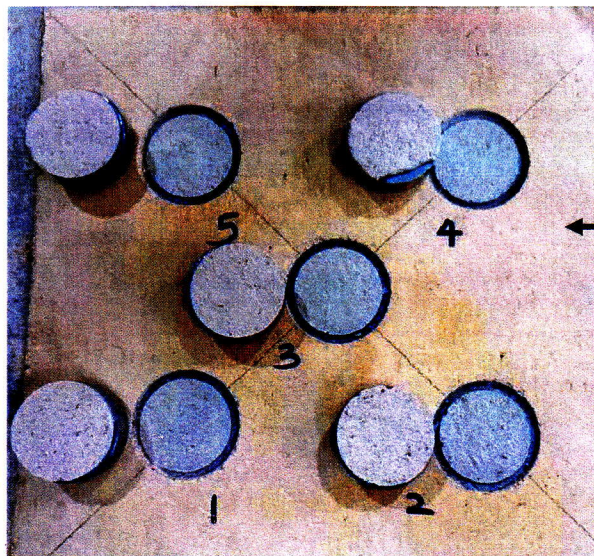
TESTING OF PLASTER MATERIALS
REPORT NO. : M/22/ 018 C

6.3 Adhesive Strength

Casting date of the samples : 26.01.2022
 Testing date of the samples : 23.02.2022
 Age at testing : 28 days
 Concrete Substrate : Grade 30

Table 03: Adhesive strength test results


Test Number	Load (kN)	Adhesive Strength (N/mm ²)	Fracture Pattern (See Photos attached)
01	0.562	0.286	Adhesive fracture
02	0.497	0.253	-Do-
03	0.491	0.250	-Do-
04	0.431	0.220	-Do-
05	0.457	0.233	-Do-
Average		0.248	-




Plaster layer
(≈3 mm thickness)

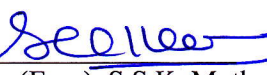
Figure 01: Adhesive strength test samples after testing

Note: Adhesive fracture was observed as the failure pattern of all samples.

Testing Officer: 
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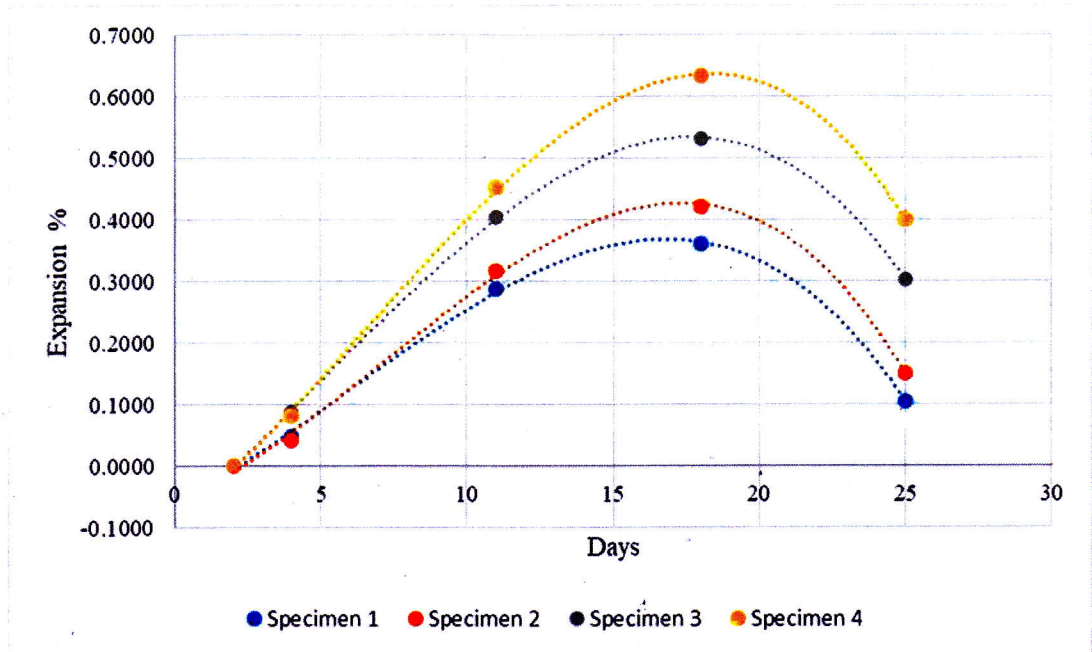
6.4 Drying Shrinkage

Casting Date – 08.02.2022
Demoulded Date – 10.02.2022


Table 04: Drying Shrinkage test results


Day		2	4	11	18	25
Date		10-Feb	12-Feb	19-Feb	26-Feb	05-Mar
Shrinkage %	Specimen 1	Note 1	-0.0475	-0.2888	-0.3603	-0.1053
	Specimen 2		-0.0412	-0.3178	-0.4202	-0.1506
	Specimen 3		-0.0870	-0.4034	-0.5319	-0.3019
	Specimen 4		-0.0826	-0.4523	-0.6331	-0.3992
Average Expansion %			0.0646	0.3656	0.4864	0.2393

Note 1: Expansion in each day was calculated as a percentage of $\left(\frac{\text{Expansion}}{2 \text{ day length}} \right) \times 100\%$

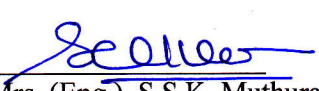


Graph 01: Expansion of the Material

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