

No.: SHIN2003009238CM-01

Date: Mar 27, 2020

Page: 1 of 10

CUSTOMER NAME: POLILAM NEW MATERIAL CO., LTD.

ADDRESS:

This Report supersedes the Report No. SHIN2003009238CM dated: Mar. 26, 2020 issued by SGS, original report will be invalid from today.

Sample Name : LAVA BOARD

Product Specification : 1220×2440×4.5mm

Material and Mark : Paper, Resin, Asbestos free fibre cement board

Heat No. : 4.5mm

Density : 1698kg/m³

Above information and sample(s) was/were submitted and confirmed by the client. SGS, however, assumes no responsibility to verify the accuracy, adequacy and completeness of the sample information provided by client.

Test Required : Please see the next page(s)

SGS Ref. No. : SHRS20200357

Ref. Standard : Please see the next page(s)

Date of Receipt : Mar 12, 2020
Testing Start Date : Mar 12, 2020
Testing End Date : Mar 26, 2020

Test result(s) : For further details, please refer to the following page(s)

(Unless otherwise stated the results shown in this test report refer only to

the sample(s) tested)

Signed for SGS-CSTC Standards Technical Service (Shanghai)Co., Ltd.

Erin Huang

Authorized signatory





No.: SHIN2003009238CM-01

Date: Mar 27, 2020

Page: 2 of 10

Summary of Results:

No.	Test Item	Test Method	Result	Conclusion
1	Cleanability	ANSI NEMA LD 3-2005 Section 3.4	See Result	Pass
2	Stain Resistance	ANSI NEMA LD 3-2005 Section 3.4	See Result	Pass
3	Boiling Water Resistance	ANSI NEMA LD 3-2005 Section 3.5	See Result	Pass
4	High Temperature Resistance	ANSI NEMA LD 3-2005 Section 3.6 Hot wax method	See Result	Pass
5	Scratch Resistance	ANSI NEMA LD 3-2005 Section 3.7.3	See Result	/
6	Wear Resistance	ANSI NEMA LD 3-2005 Section 3.13	See Result	Pass

Note: Pass : Meet the requirements;

Fail: Does not meet the requirements;

/: Not Apply to the judgment.



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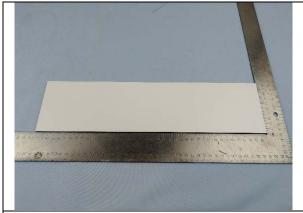


No.: SHIN2003009238CM-01

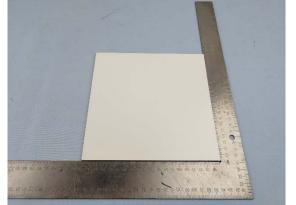
Date: Mar 27, 2020

Page: 3 of 10

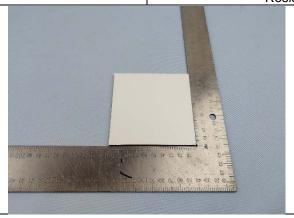
Original Sample Photo(s):







Boiling Water Resistance / High Temperature Resistance



Scratch Resistance

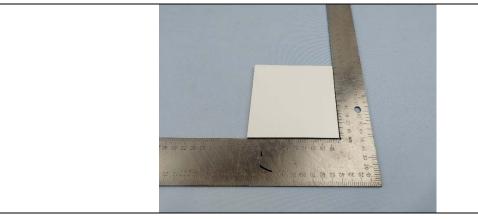




No.: SHIN2003009238CM-01

Date: Mar 27, 2020

Page: 4 of 10



Wear Resistance





No.: SHIN2003009238CM-01

Date: Mar 27, 2020

Page: 5 of 10

1. Test Item: Cleanability

Test Method: ANSI NEMA LD 3-2005 Clause 3.4

Test Condition:

Specimen: 400mm×100mm×4.5mm, 1pc

Grade: CGS

Contact time: 20h

Lab Environmental Condition: 23±2°C, 50±5%RH

Test Result:

Test Item	Test Result	Requirement in ANSI NEMA LD 3-2005 Table 2-1 CGS	Conclusion
Cleanability	Score: 6	Rating, Max: 20	Pass

Test Details:

Test Reagent Number	Stain	Score
1	Distilled water (Cover with watch glass)	0
2	50:50 Ethyl alcohol (Cover with watch glass)	0
3	Acetone (Cover with watch glass)	0
4	Household ammonia (Cover with watch glass)	0
5	10% Citric acid (Cover with watch glass)	0
6	Vegetable oil (Cover with watch glass)	0
7	Fresh coffee (Cover with watch glass)	0
8	8 Fresh tea (Cover with watch glass)	
9	9 Catsup (Cover with watch glass)	
10	Yellow mustard (Cover with watch glass)	0
11	10% Povidone iodine (Cover with watch glass)	0
12	Black Permanent Marker (Do not cover)	3
13	#2 pencil (Do not cover)	1
14	14 Wax crayon (Do not cover)	
15	15 Black paste shoe polish (Do not cover)	
Total Score		6



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No.: SHIN2003009238CM-01

Date: Mar 27, 2020

Page: 6 of 10

2. Test Item: Stain Resistance

Test Method: ANSI NEMA LD 3-2005 Clause 3.4

Test Condition:

Specimen: 400mm×100mm×4.5mm, 1pc

Grade: CGS

Contact time: 20h

Lab Environmental Condition: 23±2°C, 50±5%RH

Test Result:

Test Item	Test Result	Requirement in ANSI NEMA LD 3-2005 Table 2-1 CGS	Conclusion
Stain Resistance	No effect	Rating, Min: No effect	Pass

Test Details:

Test Reagent Number	Stain	Test Result
1	Distilled water (Cover with watch glass)	No effect
2	50:50 Ethyl alcohol (Cover with watch glass)	No effect
3	Acetone (Cover with watch glass)	No effect
4	Household ammonia (Cover with watch glass)	No effect
5	10% Citric acid (Cover with watch glass)	No effect
6	Vegetable oil (Cover with watch glass)	No effect
7	Fresh coffee (Cover with watch glass)	No effect
8	Fresh tea (Cover with watch glass)	No effect
9	9 Catsup (Cover with watch glass)	
10	Yellow mustard (Cover with watch glass)	No effect
11	10% Povidone iodine (Cover with watch glass)	No effect
12	Black Permanent Marker (Do not cover)	No effect
13	#2 pencil (Do not cover)	No effect
14	Wax crayon (Do not cover)	No effect
15	Black paste shoe polish (Do not cover)	No effect



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No.: SHIN2003009238CM-01

Date: Mar 27, 2020

Page: 7 of 10

Note: According to ANSI NEMA LD 3-2005, the evaluation methodology as blow:

- 1) No effect—all stain reagents removed with no impairment to surface appearance. Any change in gloss due to the cleaning procedure is permitted.
- 2) Moderate effect— a difficult to perceive stain visible from all angles and directions. Any change in gloss due to the cleaning procedure is permitted.
- 3) Severe effect—any easy to perceive stain or disturbed surface visible from all angles and directions.

3. Test Item: Boiling Water Resistance

Test Method: ANSI NEMA LD 3-2005 Clause 3.5

Test Condition:

Specimen: 200mm×200mm×4.5mm, 3pcs

Grade: CGS

Contact time: 20min Recover time: 24h

Lab Environmental Condition: 23±2℃, 50±5%RH

Test Result:

Test Item	Test Result	Requirement in ANSI NEMA LD 3- 2005 Table 2-1 CGS	Conclusion
Boiling Water Resistance	No effect	Rating, Min: No effect	Pass

Note: According to ANSI NEMA LD 3-2005, the evaluation methodology as blow:

- a. No effect—no change in color or surface finish.
- b. Slight effect—a change in color or surface finish visible only at certain angles and directions.
- c. Moderate effect—a change in color or surface finish visible from all angles and directions, but does not appreciably alter the original condition of the specimen.
- d. Severe effect—a change in color or surface finish which markedly alters the original condition of the specimen.



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No.: SHIN2003009238CM-01

Date: Mar 27, 2020

Page: 8 of 10

4. Test Item: High Temperature Resistance

Test Method: ANSI NEMA LD 3-2005 Clause 3.6 Hot wax method

Test Condition:

Specimen: 200mm×200mm×4.5mm, 3pcs

Grade: CGS

Test temperature: 180°C

Contact time: 20min Recover time: 24h

Lab Environmental Condition: 23±2°C, 50±5%RH

Test Result:

Test Item	Test Result	Requirement in ANSI NEMA LD 3- 2005 Table 2-1 CGS	Conclusion
High Temperature Resistance	No effect	Rating, Min: Slight effect	Pass

Note: According to NEMA LD 3-2005, the evaluation methodology as blow:

- a. No effect—no change in color or surface finish.
- b. Slight effect—a change in color or surface finish visible only at certain angles and directions.
- c. Moderate effect—a change in color or surface finish visible from all angles and directions, but does not appreciably alter the original condition of the specimen.
- d. Severe effect—a change in color or surface finish which markedly alters the original condition of the specimen.





No.: SHIN2003009238CM-01

Date: Mar 27, 2020

Page: 9 of 10

5. Test Item: Scratch Resistance

Test Method: ANSI NEMA LD 3-2005 Clause 3.7.3

Test Condition:

Specimen: 100mm×100mm×4.5mm, 3pcs

Grade: CGS

Rubbing stylus: Hemispherical diamond scratching point of radius (0.09±0.003)mm and an

included angle of (90 \pm 1) $^{\circ}$

Lab Environmental Condition: 23±2°C, 50±5%RH

Test Result:

Test Item	Test Result	Requirement in ANSI NEMA LD 3- 2005 Table 2-1 CGS	Conclusion
Scratch Resistance	Rating:3		/

Note: According to ANSI NEMA LD 3-2005 Section 3.7.3 table 3-2, rating scale as follow:

Rating	No visible marks, Faint superficial marks,	> 90% continuous double circle	
Kating	or Discontinuous scratches	of scratch marks clearly visible	
Rating 5	6N	> 6N	
Rating 4	4N	6N	
Rating 3	2N	4N	
Rating 2	1N	2N	
Rating 1	not applicable	1N	





No.: SHIN2003009238CM-01

Date: Mar 27, 2020

Page: 10 of 10

6. Test Item: Wear Resistance

Test Method: ANSI NEMA LD 3-2005 Clause 3.13

Test Condition:

Specimen: 300mm×300mm×4.5mm, 10pcs

Grade: CGS

Sandpaper: 180 grit sandpaper Load: 500g/wheel (total 1000g)

Speed: 60rpm

Correction Factor: 0.89

Lab Environmental Condition: 23±2°C, 50±5%RH

Test Result:

Test Item	Test Result	Requirement in ANSI NEMA LD 3- 2005 Table 2-1 CGS	Conclusion
Wear Resistance(r)	900	Min: 400	Pass

Original Data:

Sample	Initial wear point (IP)	Final wear point (FP)	Wear resistance= (IP+FP)/2×Correction Factor
1	850	1100	
2	825	1150	900
3	850	1125	

