

TEST REPORT

No. : SHIN2506001501CM01-1_EN

Date : 2025-08-07

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SHIN2506001501CM01-1
Verification:
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CUSTOMER NAME: POLILAM CO.LTD.
ADDRESS: 4845 HOMESTEAD RD., SUITE 516, HOUSTON, TEXAS 77028

Sample Name : POLILAM PHENOLIC CORE COMPACT
Product Specification : 12.7mm
Material : Paper ,resin
Color : White
Sample Description : Paper,resin
Other Information : Density: 1400Kg/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.

SGS Ref. No. : SHRT25000055S02
Date of Receipt : 2025-06-23
Testing Period : 2025-06-23 ~ 2025-07-15
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
Services (Shanghai) Co., Ltd..

Xander Yang
Authorized signatory



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Summary of Results:

No.	Test Item	Test Method	Result	Conclusion
1	Resistance to Surface Wear	EN 438-2:2016+A1:2018 Clause 10	See Result	N/A
2	Resistance to Immersion in Boiling Water	EN 438-2:2016+A1:2018 Clause 12	See Result	N/A
3	Resistance to Water Vapour#	EN 438-2:2016+A1:2018 Clause 14	Class 5	N/A
4	Resistance to Dry Heat	EN 438-2:2016+A1:2018 Clause 16	Class 5	N/A
5	Dimensional Stability at Elevated Temperature#	EN 438-2:2016+A1:2018 Clause 17	0.05 %	N/A
6	Resistance to Wet Heat#	EN 12721:2009+A1:2013	Class 5	N/A
7	Resistance to Impact by Large Diameter Ball	EN 438-2:2016+A1:2018 Clause 21	See Result	N/A
8	Resistance to Crazeing	EN 438-2:2016+A1:2018 Clause 24	Class 5	N/A
9	Light Fastness (Xenon Arc) *	EN 438-2:2016+A1:2018 Section 27	See Result	N/A



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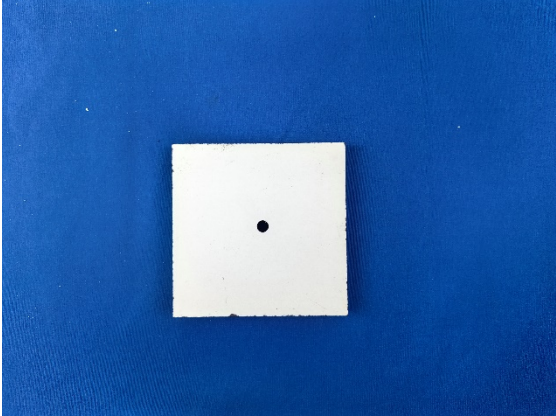
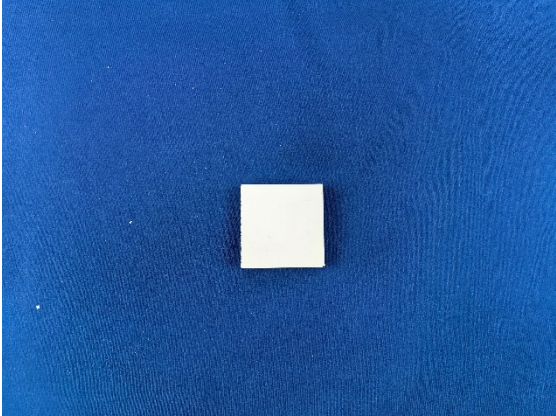
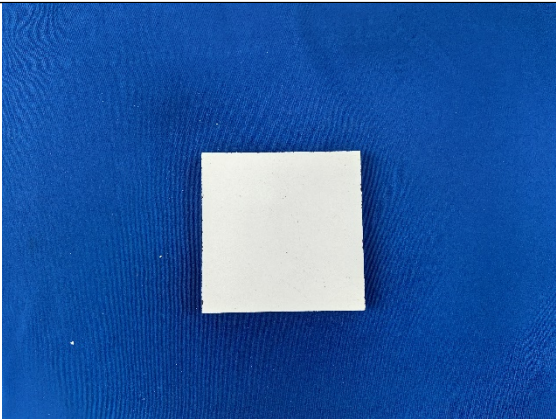
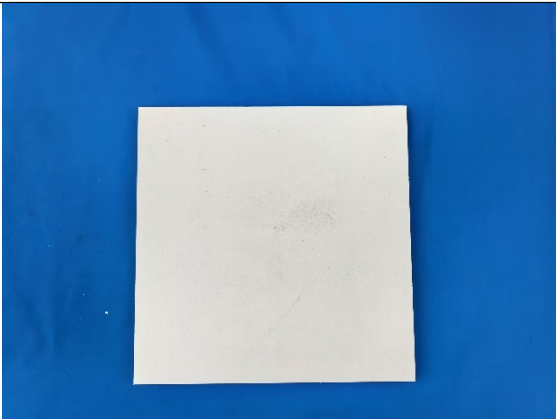
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Note: Pass : Meet the requirements;
Fail : Does not meet the requirements;
N/A : Not Apply to the judgment.

Original Sample Photo(s):

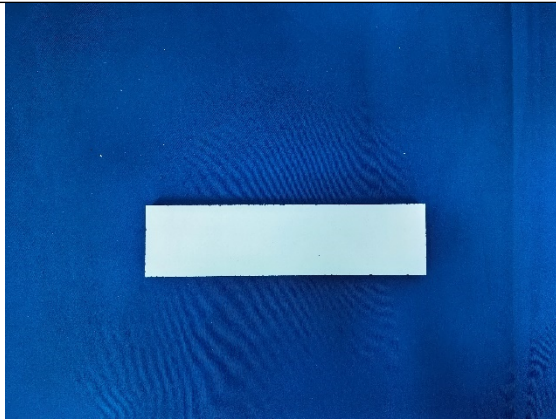
	
Resistance to Surface Wear	Resistance to Immersion in Boiling Water
	
Resistance to Water Vapour#	Resistance to Dry Heat / Resistance to Wet Heat# / Resistance to Impact by Large Diameter Ball

TEST REPORT

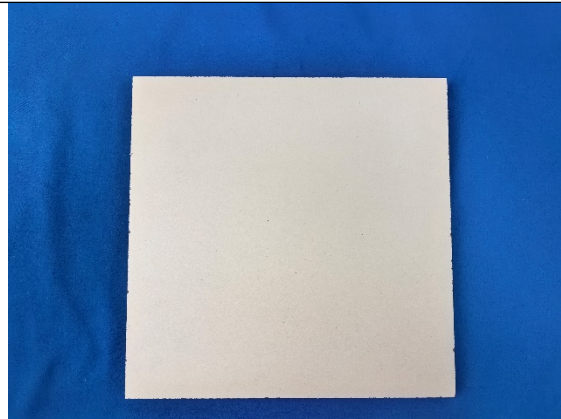
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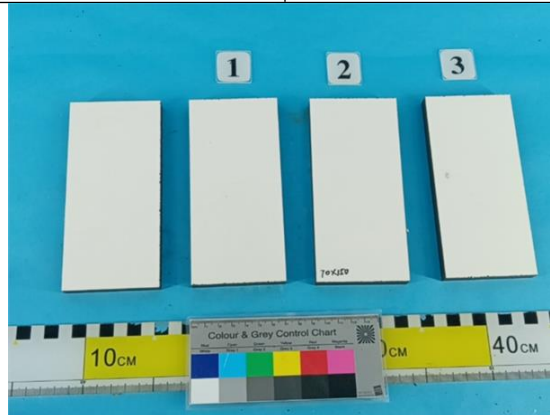
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Dimensional Stability at Elevated Temperature#



Resistance to Crazing



Light Fastness (Xenon Arc) *

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1. Test Item: Resistance to Surface Wear

Test Method: EN 438-2:2016+A1:2018 Clause 10

Test Condition:

Specimen: 100mm×100mm×12.7mm, 3pcs

Lab Environment Condition: (23±2)°C, (50±5)%RH

Test Result:

Test Item	Test Result			
	Individual Value			Average Value
Resistance to Surface Wear – IP (r)	900	850	800	850



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2. Test Item: Resistance to Immersion in Boiling Water

Test Method: EN 438-2:2016+A1:2018 Clause 12

Test Condition:

Specimen: 50mm×50mm×12.7mm, 4pcs (One as reference)

Treatment Condition: Immersion in boiling water for 2h→ Immersion in water at 23℃ for 15min.

Lab Environment Condition: (23±2)℃, (50±5)%RH

Test Result:

Test Item		Test Result			
		Individual Value			Average Value
Resistance to Immersion in Boiling Water	Water Absorption (%)	0.2	0.3	0.3	0.3
	Swelling in Thickness (%)	0.2	0.4	0.3	0.3
		0.2	0.4	0.3	
		0.3	0.3	0.3	
		0.2	0.3	0.3	
	Surface Rating Scale*	Rating 5	Rating 5	Rating 5	/
	The Lowest Rating	Rating 5			
	Edge Rating Scale*	Rating 5	Rating 5	Rating 5	/
	The Lowest Rating	Rating 5			

*Surface rating scale:

Rating 5: No visible change

Rating 4: Slight change of gloss and/or colour, only visible at certain viewing angles

Rating 3: Moderate change of gloss and/or colour

Rating 2: Marked change of gloss and/or colour or surface blistering

Rating 1: Surface layers delamination



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*Edge rating scale:

Rating 5: No visible change

Rating 4: Slight hairline edge cracks visible to the naked eyes

Rating 3: Moderate edge cracks

Rating 2: Severe edge cracks

Rating 1: Core layers delamination



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3. Test Item: Resistance to Water Vapour#

Test Method: EN 438-2:2016+A1:2018 Clause 14

Test Condition:

Specimen: 100mm×100mm×12.7mm, 1pc

Test time: 1h

Test water: Boiling water

Lab Environment Condition: (23±2)°C, (50±5)%RH

Test Result:

Test Item	Test Result
Resistance to Water Vapour	Rating 5

Expression of Results:

Rating	Description
5	No visible change
4	Slight change of gloss and/or colour, only visible at certain viewing angles
3	Moderate change of gloss and/or colour
2	Marked change of gloss and/or colour
1	Blistering and/or delamination

Test project is not within the CNAS accredited scope.



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4. Test Item: Resistance to Dry Heat

Test Method: EN 438-2:2016+A1:2018 Clause 16

Test Condition:

Specimen: 230mm×230mm×12.7mm, 1pc

Test temperature: 160°C

Test time: 20min

Lab Environment Condition: (23±2)°C, (50±5)%RH

Test Result:

Test Item	Test Result
Resistance to Dry Heat	Rating 5

Rating Scale:

Rating scale	Description
5	No change Test area indistinguishable from adjacent surrounding area
4	Minor change Test area distinguishable from adjacent surrounding area, only when the light source is mirrored on the test surface and is reflected towards the observer's eye, e.g. discoloration, change in gloss and colour
3	Moderate change Test area distinguishable from adjacent surrounding area, visible in several viewing directions, e.g. discoloration, change in gloss and colour, no change in the surface structure, e.g. deformation, cracking, blistering



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2	<p>Significant change</p> <p>Test area clearly distinguishable from adjacent surrounding area, visible in all viewing directions, e.g. discoloration, change in gloss and colour, and/or structure of the surface slightly changed, e.g. slight cracking, slight blistering</p>
1	<p>Strong change</p> <p>The structure of the surface being distinctly changed e.g. strong cracking, strong blistering and/or discoloration, change in gloss and colour, and/or the surface material being totally or partially delaminated</p>



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5. Test Item: Dimensional Stability at Elevated Temperature#

Test Method: With Reference to EN 438-2:2016+A1:2018 Clause 17

Test Condition:

Specimen: 200mm×50mm×12.7mm, 8pcs

Dry heat test: 70°C, 24h

High-humidity test: 40°C, 95%RH, 96h

Lab Environment Condition: (23±2)°C, (50±5)%RH

Test Result:

Test Item	Test Result		
	Dry Heat Test	High humidity test	Cumulative Dimensional Change
Dimensional Stability at Elevated Temperature (%)	-0.05	0.00	0.05

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6. Test Item: Resistance to Wet Heat#

Test Method: EN 12721:2009+A1:2013

Test Condition:

Specimen: 230mm×230mm×12.7mm, 1pc

Test temperature: 55°C

Test time: 20min

Lab Environment Condition: (23±2)°C, (50±5)%RH

Test Result:

Test Item	Test Result
Resistance to Wet Heat	Rating 5

Rating scale:

Rating scale	Description
5	No change Test area indistinguishable from adjacent surrounding area
4	Minor change Test area distinguishable from adjacent surrounding area, only when the light source is mirrored on the test surface and is reflected towards the observer's eye, e.g. discoloration, change in gloss and colour
3	Moderate change Test area distinguishable from adjacent surrounding area, visible in several viewing directions, e.g. discoloration, change in gloss and colour, no change in the surface structure, e.g. deformation, cracking, blistering



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2	Significant change Test area clearly distinguishable from adjacent surrounding area, visible in all viewing directions, e.g. discoloration, change in gloss and colour, and/or structure of the surface slightly changed, e.g. slight cracking, slight blistering
1	Strong change The structure of the surface being distinctly changed e.g. strong cracking, strong blistering and/or discoloration, change in gloss and colour, and/or the surface material being totally or partially removed

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7. Test Item: Resistance to Impact by Large Diameter Ball

Test Method: EN 438-2:2016+A1:2018 Clause 21

Test Condition:

Specimen: 230mm×230mm×12.7mm, 5pcs

Steel ball: Φ42.8mm, 324g

Height of Impact: 1900mm

Lab Environment Condition: (23±2)°C, (50±5)%RH

Test Result:

Test Item	Test Result
Resistance to Impact by Large Diameter Ball - Indentation Diameter (mm)	1: 5.07
	2: 5.53
	3: 5.20
	4: 5.67
	5: 5.28



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8. Test Item: Resistance to Crazing

Test Method: EN 438-2:2016+A1:2018 Clause 24

Test Condition:

Specimen: 250mm×250mm×12.7mm, 2pcs

Test temperature: 80℃, 20h→Cooling in 23℃, 3 h

Lab Environment Condition: (23±2)℃, (50±5)%RH

Test Result:

Test Item	Test Result
Resistance to Crazing	Rating 5

Rating Scale:

Rating 5: Surfaces and edges unchanged from 'as received' condition

Rating 4: Surfaces unchanged with slight hairline edge cracks visible to the naked eye

Rating 3: Surface cracks visible to the naked eye, and/or moderate edge cracks.

Rating 2: Moderate surface cracks and/or severe edge cracks.

Rating 1: Severe surface cracks and/or delamination.



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9. Test Item: Light Fastness (Xenon Arc) *

Sample Description: A-White panel

Test Method: EN 438-2:2016+A1:2018 Section 27

Test Condition:

Exposure Cycle:

Irradiance: $(0.5 \pm 0.03) \text{ W}/(\text{m}^2 \cdot \text{nm}) @ 340 \text{ nm}$

Continuous light at $(65 \pm 3)^\circ \text{C}$ BST, $(50 \pm 5) \% \text{RH}$

Filter: Daylight-B/B

Test Period: 110h (No.6 Blue wool faded to grey scale of 4)

Lab Environmental Condition: $(23 \pm 2)^\circ \text{C}$, $(50 \pm 5) \% \text{RH}$

Test Result:

Sample A

Test Item	Grey Scale
Light Fastness (Xenon Arc)	4-5

Note:

1. End the test when the No.6 Blue wool faded to grey scale of 4.
2. According to DIN EN 20105-A02:1994, the grey scale was determined under the D65 standard light, with scale 5 as the best and scale 1 as the worst.



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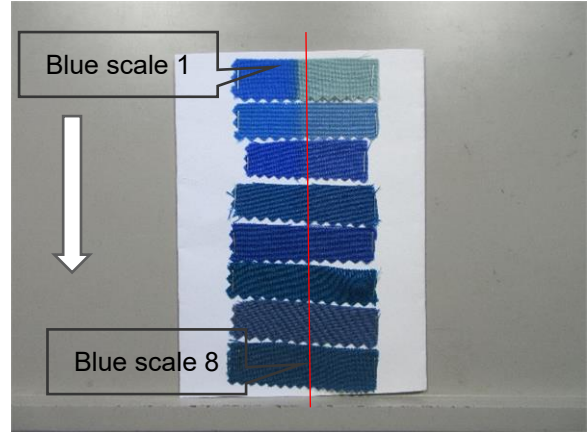

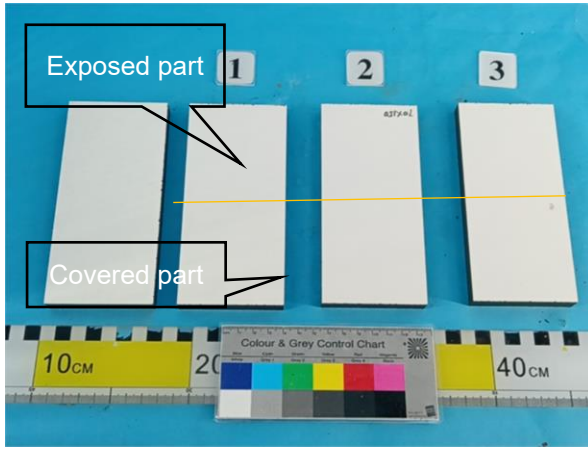
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Test Photo:

	
<p>Covered part</p> <p>Exposed part</p> <p>Blue scale</p>	<p>Reference sample</p> <p>Test sample</p> <p>Before Test-Sample A</p>
	<p>/</p>
<p>Reference sample</p> <p>Test sample</p> <p>After Test-Sample A</p>	<p>/</p>

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Equipment Information:

Equipment Name	Model	Equipment No.	Calibration date	Next Calibration date
Q-sun Xenon Test Chamber	Q-SUN XE-3-HBS	SUZMR-146	2024-09-03	2025-09-02
Standard Light Box	SpectraLight QC	SUZMR-094	2024-11-12	2025-11-11

* Test project was carried out by SGS-CSTC Standards Technical Services Co., Ltd. Suzhou Branch Testing Center, and is not within the CNAS accredited scope of SGS-CSTC Standards Technical Services Co., Ltd. Suzhou Branch Testing Center.

This test report updates the subcontracting statement, supersedes the test report No.

SHIN2506001501CM01_EN dated Jul 22nd, 2025, original report will be invalid from today.

The test report shall only be used for clients' scientific research, teaching, internal quality control, product research and development, etc... and just for internal reference.

Unless otherwise stated, this report provides a declaration of conformity according to whether the test results are within the specified limits or specifications without considering the measurement uncertainty.

*****End of report*****



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