

TEST REPORT

No. : GZIN2406000048CPC01_EN

Date : 2024-07-15

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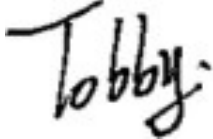
CUSTOMER NAME: BLAUWSCHILD B.V
ADDRESS: HERTENLAAN 12, 6705 CB WAGENINGEN, THE NETHERLANDS

Sample Name : Blauwschild HPL

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. : GZIN2406002191PL01
Date of Receipt : 2024-06-19
Testing Period : 2024-06-19 ~ 2024-07-15
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 Co., Ltd. Guangzhou
Branch.



Tobby Yang
Authorized signatory



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Testing Laboratory

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Summary of Results:

No.	Test Item	Test Method	Result	Conclusion
1	Bonding Strength	EN 438-7:2005 Section 4.7 & ISO 13894-1:2000 Section 9	2.4 MPa	N/A
2	Flexural tensile strength	EN 438-7:2005 Section 4.8 & EN ISO 178:2019 & EN 438-4:2005	Flexural strength: 111 MPa Flexural modulus: 10300 MPa	Pass
3	Glue-line quality	EN 438-7:2005 Section 4.13.3 & ISO 13894-1:2000 Section 8	Rating 5	N/A
4	Resistance to elevated temperature	EN 438-7:2005 Section 4.13.3 & ISO 13894-1:2000 Section 12	No visible defects	N/A
5	Water resistance (Edge swell)	EN 438-7:2005 Section 4.13.3 & ISO 13894-1:2000 Section 19	See results	N/A
6	Thermal Resistance / Conductivity	EN 438-7:2005 Clause 4.9 & EN 12664:2001 Heat Flow Meter Method	See Result	N/A
7	EN 14041:2018 - Pentachlorophenol (PCP)	With reference to EN14041:2018 ANNEX B & EN12673:1999, analysis was performed by GC-MS	ND	Pass
8	Formaldehyde Emission	With reference to EN 717-1:2004, analysis was performed by UV-Vis.	ND	/

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



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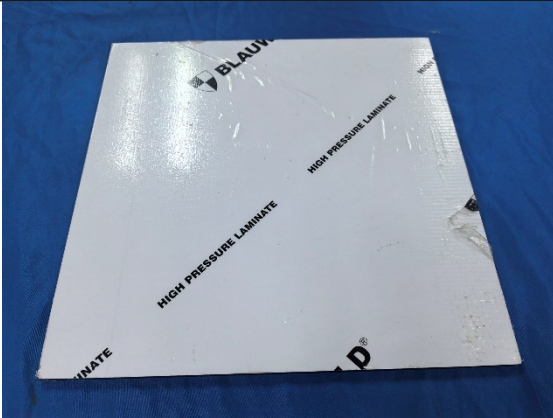

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Original Sample Photo:

	
<p>Test item 1</p>	<p>Test item 2, 3, 4, 5</p>
	
<p>Test item 6</p>	<p>Test item 7</p>



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Test Item 1: Bonding Strength

Sample Description: See photo

Test Method: EN 438-7:2005 Section 4.7 & ISO 13894-1:2000 Section 9

Test Condition:

Specimen: 50 mm×50 mm×6 mm

Bonding area: 1000 mm²

Testing speed: 5 mm/min

Test result:

Test Item	Test Result
Bonding Strength	2.4 MPa

Note: The protected film of test specimens was removed before test.

Test Item 2: Flexural tensile strength

Sample Description: See photo

Test Method: EN 438-7:2005 Section 4.8 & EN ISO 178:2019 & EN 438-4:2005

Test condition:

Specimen: 200 mm×16.36 mm×6.16 mm

Support span: 96 mm

Testing speed: 2 mm/min

Test Results:

Test Item	Test Result	Requirement in EN 438-4:2005 Table 3	Conclusion
Flexural strength	111 MPa	≥ 80 MPa	Pass
Flexural modulus	10300 MPa	≥ 9000 MPa	Pass

Note:

- 1.All test specimens were cut from the sample.
2. The protected film of test specimens was removed before test.



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Test Item 3: Glue-line quality

Sample Description: See photo

Test Method: EN 438-7:2005 Section 4.13.3 & ISO 13894-1:2000 Section 8

Test Condition:

Specimen: 300 mm×100 mm×6 mm

Test result:

Test Item	Test result:
Glue-line quality	Rating 5

Note:

1. Rating 5: Extremely difficult to completely remove laminate from substrate.
2. Rating is evaluated according to ISO 13894-1:2000 Section 8, with Rating 5 as the best and rating 1 as the worst.
3. The protected film of test specimens was removed before test.

Test Item 4: Resistance to elevated temperature

Sample Description: See photo

Test Method: EN 438-7:2005 Section 4.13.3 & ISO 13894-1:2000 Section 12

Test Condition:

Specimen: 300 mm×100 mm×6 mm

Condition: 70°C, 16 h→ room temperature, 1 h

Test result:

Test Item	Test result:
Resistance to elevated temperature	No visible defects

Note:

1. All test specimens were cut from the sample.
2. The protected film of test specimens was removed before test.



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Test Item 5: Water resistance (Edge swell)

Sample Description: See photo

Test Method: EN 438-7:2005 Section 4.13.3 & ISO 13894-1:2000 Section 19

Test Condition:

Specimen: 300 mm×100 mm×6 mm

Contact period with wet sponges: 24h

Test result:

Test Item	Test Result
Water resistance (Edge swell)	Maximum percentage increase in thickness: 0.20 %
	No visible edge separation

Note:

1. Percentage increase in thickness= (Final thickness - Initial thickness)/ Initial thickness×100%
2. All test specimens were cut from the sample.
3. The protected film of test specimens was removed before test.



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Test Item 6: Thermal Resistance / Conductivity

Test Method: EN 438-7:2005 Clause 4.9 & EN 12664:2001 Heat Flow Meter Method

Test Condition:

Specimen: 300mm×300mm×6.2mm, 1pc

Density: about 1462kg/m³

Mean temperature: 23°C

Temperature difference: 10°C

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

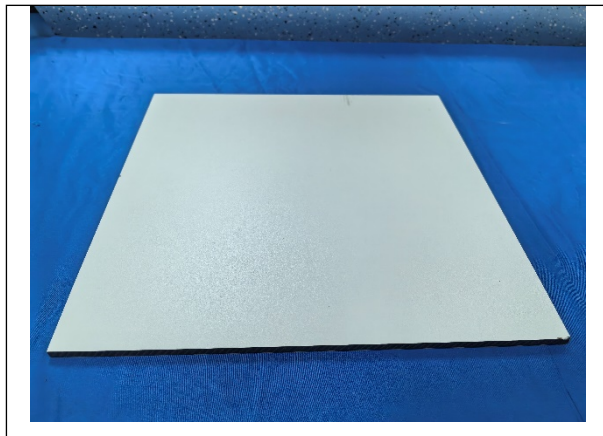
Test Result:

Test Item	Test Result
Thermal Conductivity	0.146 W/(m·K)
Thermal Resistance	0.042 (m ² ·K)/W

Note:

- The test result can not be compared with other results obtained from different test conditions, and should not be cited to the use condition directly.
- Tear off the protective film before testing.
- Test Item 6 was carried out by other laboratory in SGS group.

Specimen Photo(s):



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Test Item 7: EN 14041:2018 - Pentachlorophenol (PCP)

Sample Description: "Blauwschild HPL"

Test Method: With reference to EN14041:2018 ANNEX B & EN12673:1999, analysis was performed by GC-MS.

Test result:

Test Item(s)	Limit	Unit(s)	MDL	002
Pentachlorophenol(PCP)	5	mg/kg	1.0	ND
Conclusion				Pass

Remarks:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated



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Test Item 8: Formaldehyde Emission

Sample Description: "Blauwschild HPL"

Test Method: With reference to EN 717-1:2004, analysis was performed by UV-Vis.

Test result:

Test Item(s)	Unit(s)	MDL	001
Formaldehyde	mg/m ³	0.050	ND

Remarks:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated
- (5) Reference Limit: EN13986:2004(E)
- (6) Formaldehyde class E1: ≤0.124 mg/m³ air
Formaldehyde class E2: >0.124 mg/m³ air

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.

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