

LU AN INTCO INDUSTRIES CO., LTD

TEST REPORT

SCOPE OF WORK

WPC DECKING

REPORT NUMBER

240620001SHF-001

TEST DATE(S)

2024-06-20 - 2024-08-02

ORIGINAL ISSUE DATE

2024-08-02

PAGES

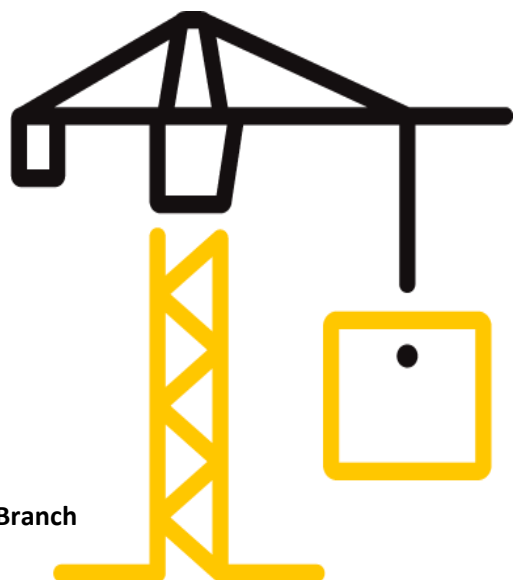
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DOCUMENT CONTROL NUMBER

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Intertek Testing Services Shenzhen Ltd. Shanghai Fengxian Branch



Test Report

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- 8.Intertek B&C will service this report for the entire test record retention period. The test record retention period ends 6 years after this report original issue date. The test record retention period for certification program is 10 years. Test records and other pertinent project documentation will be retained for the entire test record retention period.
- 9.The report was digital signed by Shang Hai, Intertek Group plc, please using Adobe Acrobat Reader to verify the authenticity.

Test Report

Original Issue Date: 2024-08-02 Intertek Report No. 240620001SHF-001
Applicant: LU AN INTOCO INDUSTRIES CO., LTD
Address: Yufeng Road, High-tech Industrial Development Zone Lu'an, Anhui
Attn: Juming Hu
Manufacturer: LU AN INTOCO INDUSTRIES CO., LTD
Address: Yufeng Road, High-tech Industrial Development Zone Lu'an, Anhui
Test Type: Performance test, samples provided by the applicant.

Product Information

Product Name	Model	Specification
WPC DECKING	/	/
Sample ID	Sample Amount	Sample Received Date
S240620001SHF.001~004, 007~009, 011~012, 014~015	46 pcs	2024-06-05 2024-06-27
Sample Description		
148mm×23mm		

Test Methods And Standards

Test Standard	EN 15534-4:2014 Section 4.4, 4.5.1, 4.5.2, 4.5.3, 4.5.5, 4.5.6 EN 15534-1:2014 Section 6.4.2, 7.1.2.1, 7.4.1, 8.3.1, 8.3.3, 9.2, Annex A CEN/TS 15676:2007, ISO 11359-2:2021, ASTM D4060-19, ASTM D696-16, DIN EN 16165:2023 Annex B, FLTM BO 162-01-2024
Specification Standard	EN 15534-4:2014
Test Conclusion	The samples were tested according to the above standards, and the results are shown in the following page.

Note:

1.This report does not involve sampling. The report only reflects conformity of the tested items of the samples provided by the testing applicant. Representativeness and authenticity of the submitted samples are responsibilities of the testing applicant.

Report Authorized


Name: Flora Fan Title: Reviewer
Name: Erin Huang Title: Project Engineer

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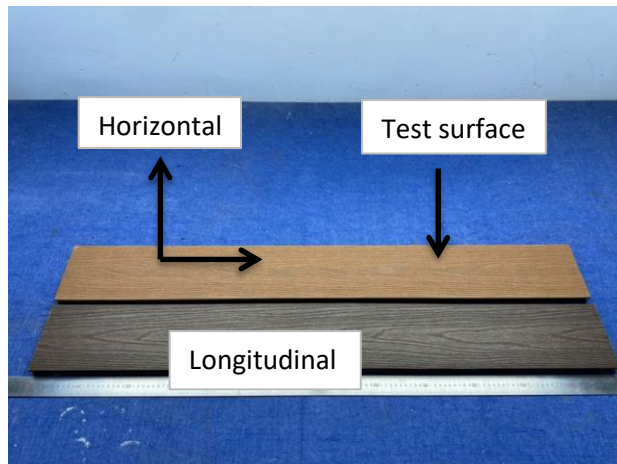
Test Items, Method and Results:

EN 15534-4:2014 Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) Part 4: Specifications for decking profiles and tiles

Test Items	Test Method	Test Results	Test requirements	Verdict
Slipperiness (Pendulum test)	EN 15534-4:2014 Section 4.4 EN 15534-1:2014 Section 6.4.2 CEN/TS 15676:2007	Surface condition: Dry Longitudinal direction: Mean: 85 Min.: 82 Horizontal direction: Mean: 89 Min.: 85	Pendulum value ≥ 36	Pass

Note:

1. Test surface and direction please refer to below picture.



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Test Items	Test Method	Test Results	Test requirements	Verdict
Falling mass impact resistance	EN 15534-4:2014 Section 4.5.1 EN 15534-1:2014 Section 7.1.2.1	Type: Hollow profile Max. Crack length (mm): No crack Max. Residual Indentation (mm): 0.15	None of 10 test specimens shall show a failure with a crack length ≥ 10 mm or a depth of residual indentation $\geq 0,5$ mm.	Pass

Note:

1. The falling mass was 1000g and the height was 700mm.



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Test Items	Test Method	Test Results	Test requirements	Verdict
Flexural properties	EN 15534-4:2014 Section 4.5.2 EN 15534-1:2014 Annex A	Bending Strength: 24.5 MPa Modulus of elasticity: 2836 MPa Maximum load: Mean: 3570 N Min.: 3469 N Deflection at 500N: Mean: 1.08 mm Max.: 1.25 mm	Flexural properties -F'max: Mean ≥ 3300 N Min. ≥ 3000 N -Deflection under a load of 500 N: Mean ≤ 2,0 mm Max. ≤ 2,5 mm	Pass

Note:

1. The test span was 350 mm offered by applicant.

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Test Items	Test Method	Test Results	Test requirements	Verdict
Creep behaviour	EN 15534-4:2014	Span: 350 mm	Known span in use	Pass
	Section 4.5.3	Mean ΔS : 3.98 mm	Mean $\Delta S \leq 10$ mm	
	EN 15534-1:2014	Max. ΔS : 4.59 mm	Max. $\Delta S \leq 13$ mm	
	Section 7.4.1	Mean ΔS_r : 2.95 mm	Mean $\Delta S_r \leq 5$ mm	

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Test Items	Test Method	Test Results	Test requirements	Verdict
Swelling and water absorption (28 days immersion)	EN 15534-4:2014 Section 4.5.5 EN 15534-1:2014 Section 8.3.1	<p>Mean Swelling:</p> <p>0.23 % in thickness 0.03 % in width 0.07 % in length</p> <p>Max. Swelling:</p> <p>0.26 % in thickness 0.04 % in width 0.08 % in length</p> <p>Water absorption:</p> <p>Mean: 1.04 % Max.: 1.05 %</p>	<p>Means swelling:</p> <p>≤ 4 % in thickness ≤ 0,8 % in width ≤ 0,4 % in length</p> <p>Max. swelling:</p> <p>≤ 5 % in thickness ≤ 1,2 % in width ≤ 0,6 % in length</p> <p>Water absorption:</p> <p>Mean ≤ 7 % Max. ≤ 9 %</p>	Pass

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Test Items	Test Method	Test Results	Test requirements	Verdict
Boiling Test	EN 15534-4:2014 Section 4.5.5	Water absorption in weight:	Water absorption in weight:	Pass
	EN 15534-1:2014 Section 8.3.3	Mean: 0.64 % Max.: 0.67 %	Mean ≤ 7% Max. ≤ 9%	

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Test Items, Method and Results:

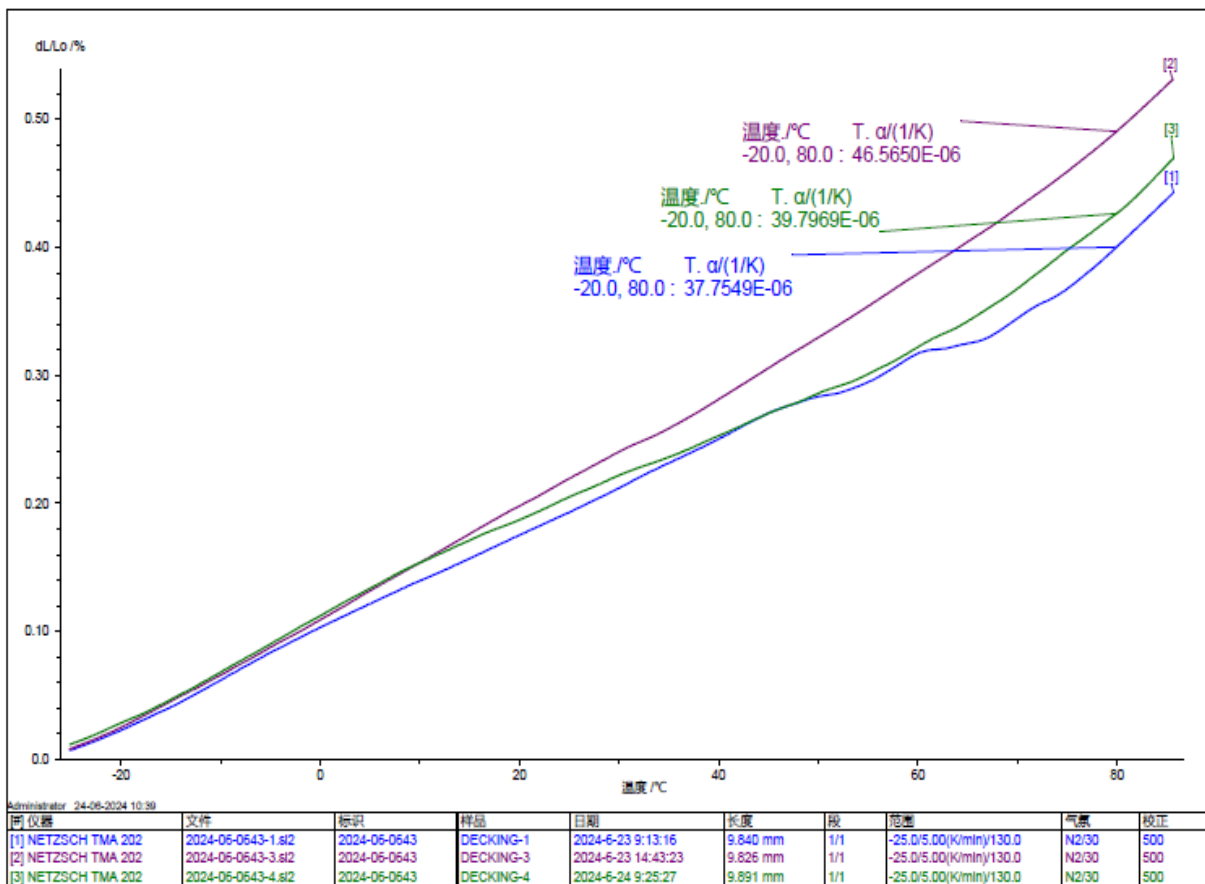
EN 15534-4:2014 Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) Part 4: Specifications for decking profiles and tiles

Test Items	Test Method	Test Results	Test requirements	Verdict
Linear thermal expansion coefficient	EN 15534-4:2014 Section 4.5.6 EN 15534-1:2014 Section 9.2 ISO 11359-2:2021	Temperature range: -20°C~80°C Mean: Longitudinal direction 41.4 ·10 ⁻⁶ K ⁻¹	≤ 50·10 ⁻⁶ K ⁻¹	Pass

Note:

1. Test item is subcontracted on accreditation by CNAS L2233.

Test graph:



Test Report

Original Issue Date: 2024-08-02

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Test Items, Method and Results:

Test Item: Abrasion/Wear resistance

Test Method: ASTM D4060-19

Conditioning: Condition the test specimens at (23±2)°C and (50±5)% relative humidity for at least 24h

Test Condition:

Rotation frequency: 60 r/min

Abrasive wheels: CS-17

Load on each wheel: 1000 g

Test revolutions: 1000 r

Test Result:

Parameter	Specimen 1	Specimen 2	Specimen 3
Mass/Weight loss, (mg)	38.7	37.5	35.8
Average value, (mg)	37.3		

Note:

1. Abbreviation "r" = revolutions/cycles
2. Test conditions were specified by client.

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Test Items, Method and Results:

Test Item: Coefficient of Linear Thermal Expansion
Test Method: ASTM D696-16
Conditioning: Condition the test specimens at (23±2)°C and (50±10)% relative humidity for not less than 40 h
Temperature Range: From -30°C (-22°F) to 30°C (86°F)

Test Result:

Test Item	Result
Coefficient of Linear Thermal Expansion	Mean value: 41.6 ×10 ⁻⁶ mm/mm/°C



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Test Items, Method and Results:

Test item	Test Method	Test result
Slip resistance (Shod ramp test)	DIN EN 16165:2023 Annex B	Angle: 12 ° Rating: R10

DIN EN 16165:2023 Classification of Slip resistance

Classification	Angle
R9	$6^{\circ} \leq X \leq 10^{\circ}$
R10	$10^{\circ} < X \leq 19^{\circ}$
R11	$19^{\circ} < X \leq 27^{\circ}$
R12	$27^{\circ} < X \leq 35^{\circ}$
R13	$> 35^{\circ}$

Note:

1. Test item is subcontracted on accreditation by CNAS L1978.



Test Report

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Test Items, Method and Results:

Test Item: Scratch resistance
Test Method: FLTM BO 162-01-2024
Test Condition:
 Load: 15N
 Travel: 200mm
 Speed: 100mm/s
 Head: 1mm

Test Result:

No.	15N		
	Scratch Rating	Whitening Rating	Marring Rating
1	3	2	3
2	3	2	3
3	3	2	3

Note:

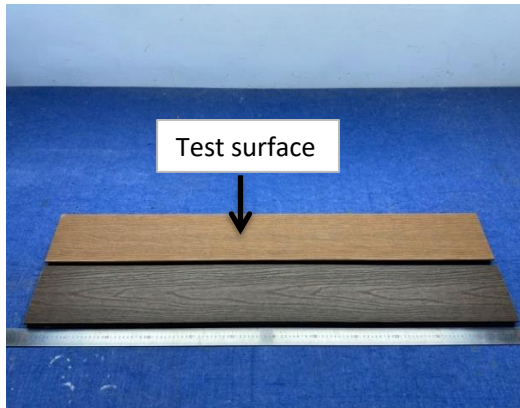
1. Record 15N results as per applicant's requirement.
2. Test item is subcontracted on Intertek Testing Services Ltd., Shanghai.

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Appendix A: Sample Received Photo



Front view & Back view



Section view

Revision:

NO.	Date	Changes
240620001SHF-001	2024-08-02	First issue