

TEST REPORT

SCOPE OF WORK

WPC Plank

REPORT NUMBER

211220004SHF-001

TEST DATE(S)

2021-12-20 - 2022-01-27

ISSUE DATE

2022-01-28

PAGES

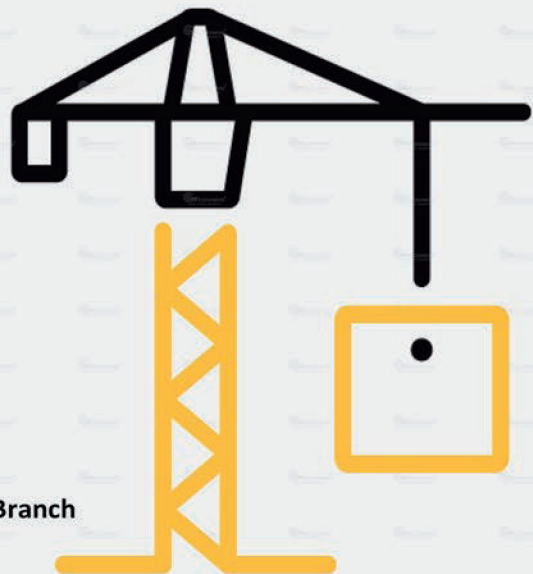
12

DOCUMENT CONTROL NUMBER

LFT-APAC-SHF-OP-10k(May 1, 2021)

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Intertek Testing Services Shenzhen Ltd. Shanghai Fengxian Branch



Test Report

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Test Report

Issue Date: 2022-01-28

Intertek Report No. 211220004SHF-001

Test Type: Performance test, samples provided by the applicant.

Product Information

Product Name	WPC Plank	Brand	/
Sample Description	Good Condition	Sample Amount	9 pcs
		Received Date	2021-12-17
Sample ID	Model	Specification	
S211220004SHF.001, 002, 004, 006, 007, 009, 010	/	/	

Test Methods And Standards

Test Standard	EN 15534-4:2014 4.3, 4.4, 4.5.5, 4.5.6, 4.5.7 EN 15534-1:2014 6.1, 6.4.4, 6.6.4, 8.1, 8.3.1, 8.6, 9.2, 10.1 EN 13893:2002, ISO 4892-2:2013 cycle 1, ISO 11359-2:1999, ISO 4628-6:2011, EN ISO 9227:2017
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 relates specifically to the sample(s) that were drawn and provided by the applicant or their nominated third party. The reported result(s) provide no warranty or verification on the sample(s) representing any specific goods and/or shipment and only relate to the sample(s) as received and tested.

Report Authorized

	<p><i>Daniel Zhang</i></p> <hr/> <p>Name: Daniel Zhang Title: Approver</p>	<p><i>Flora Fan</i></p> <hr/> <p>Name: Flora Fan Title: Reviewer</p>	<p><i>Erin Huang</i></p> <hr/> <p>Name: Erin Huang Title: Project Engineer</p>
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Test Report

Issue Date: 2022-01-28

Intertek Report No. 211220004SHF-001

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
Appearance	EN 15534-4:2014 Section 4.3 EN 15534-1:2014 Section 6.1	No crack, blister and other visible defects.



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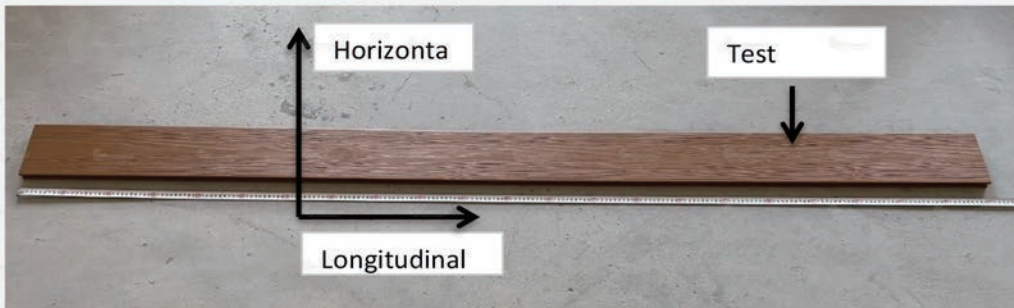
Test Items, Method and Results:

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 (Dynamic coefficient of friction)	EN 15534-4:2014 Section 4.4 EN 15534-1:2014 Section 6.4.4 EN 13893:2002	Longitudinal direction:	≥ 0.43	Pass
		Mean: 0.43		
		Min.: 0.43		
		Horizontal direction:		
		Mean: 0.51		
		Min.: 0.50		

Note:

1. Requirement is cited from EN 15534-4:2014 Table 1.
2. Test surface and direction please refer to below picture.



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Test Items	Test Method	Test Results
Dimensions	EN 15534-4:2014 Section 4.4 EN 15534-1:2014 Section 6.6.4	Max. Cupping: 0.23 mm

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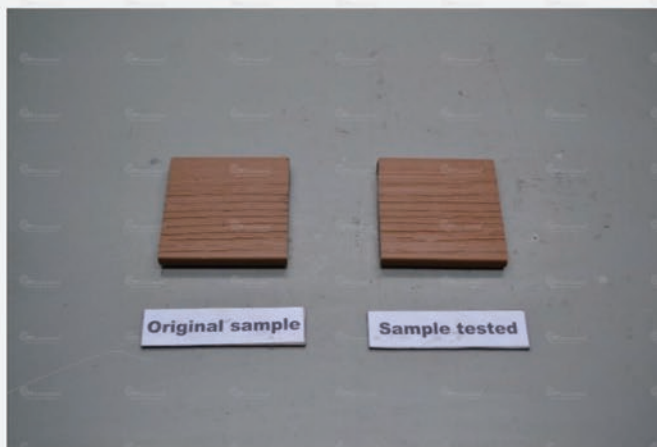
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Test Items, Method and Results:

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
Resistance to artificial weathering	EN 15534-4:2014 Section 4.5.5 EN 15534-1:2014 Section 8.1 ISO 4892-2:2013, cycle 1	After 300h exposure: $\Delta L^* = -0.68$ $\Delta a^* = 0.57$ $\Delta b^* = 1.04$ $\Delta E^* = 1.37$ Grey Sale= 4	$\Delta L^*, \Delta a^*$ and Δb^* shall be delared	N/A

Tested sample photo:



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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	Mean Swelling: 0.26 % in thickness 0.05 % in width 0.09 % in length Max. Swelling: 0.39 % in thickness 0.06 % in width 0.14 % in length Water absorption: Mean: 0.22 % Max.: 0.24 %	Means swelling: ≤ 4 % in thickness $\leq 0,8$ % in width $\leq 0,4$ % in length Max. swelling: ≤ 5 % in thickness $\leq 1,2$ % in width $\leq 0,6$ % in length Water absorption: Mean ≤ 7 % Max. ≤ 9 %	Pass

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Test Items, Method and Results:

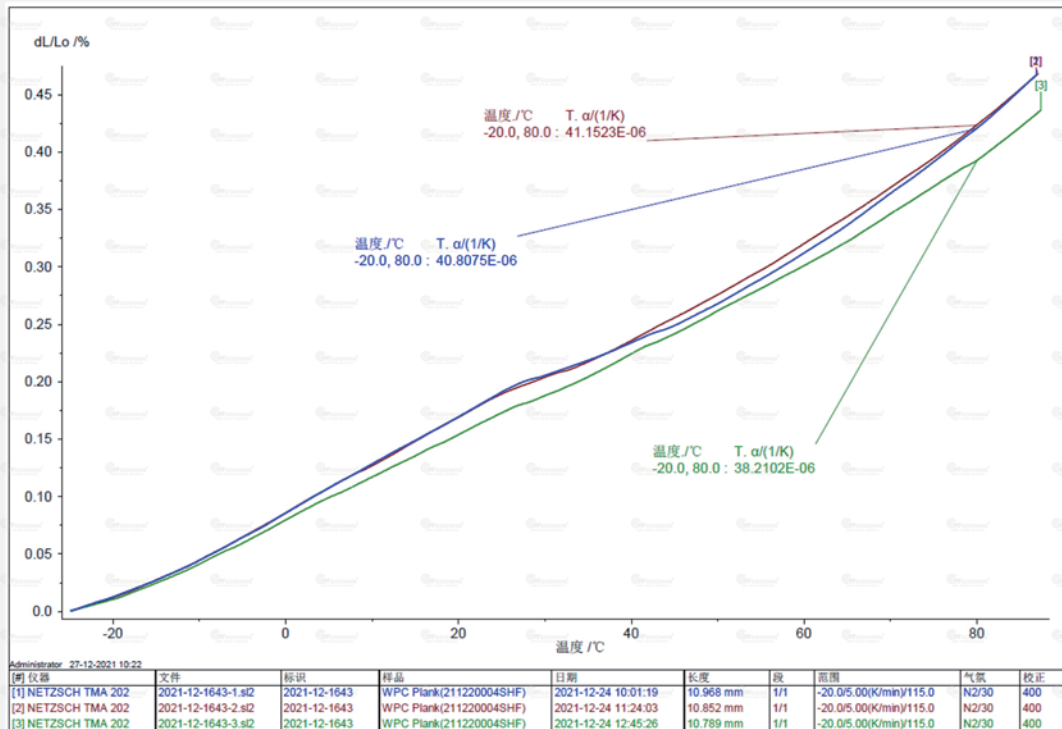
EN 15534-4:2014 Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) Part 4: Specifications for decking profiles and tiles

Test Items	Test Method	Test Results	Test requirements	Verdict
Linear thermal expansion coefficient (-20°C~80°C)	EN 15534-4:2014 Section 4.5.6 EN 15534-1:2014 Section 9.2 ISO 11359-2:1999	Mean: 40.1 · 10 ⁻⁶ K ⁻¹	≤ 50·10 ⁻⁶ K ⁻¹	Pass

Note:

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

Test graph:



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Test Items	Test Method	Test Results
Degree of chalking (Only for coated products)	EN 15534-4:2014 Section 4.5.7 EN 15534-1:2014 Section 10.1 ISO 4892-2:2013 cycle 1 ISO 4628-6:2011	After weathering test for 300 hours, there was no visual chalking on the surface.



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Test Parameters:

1. Solution: (50±5) g/L NaCl
2. pH Value: 6.5~7.2
3. Test Duration: 200 hours

Test Items	Test Method	Test Results
Resistance to salt spray (NSS test)	EN 15534-4:2014 Section 4.5.7 EN 15534-1:2014 Section 8.6 EN ISO 9227:2017	Exposure time (h): 200
		$\Delta L^* =$ 0.03
		$\Delta a^* =$ 0.08
		$\Delta b^* =$ 0.03
		$\Delta E^* =$ 0.09
		Grey Sale= 5

Tested sample photo:



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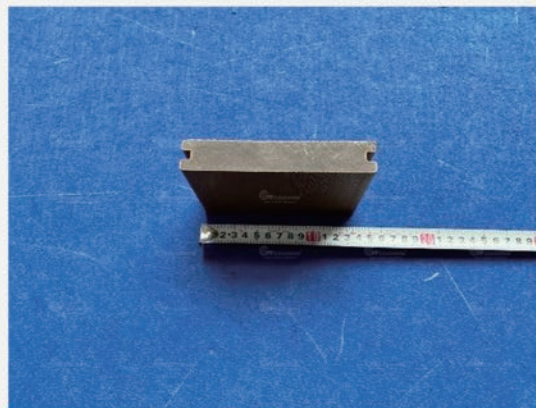
Appendix A: Sample Received Photo



Front view (Test surface)



Back view



Section view

Revision:

NO.	Date	Changes
211220004SHF-001	2022-01-28	First issue