

# Shaoxing Yongsheng New Material Co., Ltd

## TEST REPORT

**SCOPE OF WORK**

Co-extrusion WPC decking

**REPORT NUMBER**

211019017SHF-002

**TEST DATE(S)**

2021-10-19 - 2021-12-13

**ISSUE DATE**

2021-12-13

**PAGES**

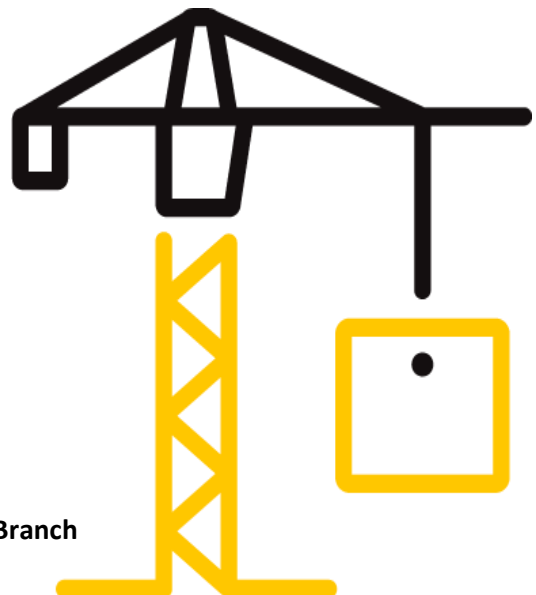
10

**DOCUMENT CONTROL NUMBER**

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

© 2021 INTERTEK

Intertek Testing Services Shenzhen Ltd. Shanghai Fengxian Branch



## Test Report

### Statement

- 1.This report is invalid without company's special seal for testing on assigned page.
- 2.This report is invalid without authorized person's signature.
- 3.This report is invalid where any unauthorized modification indicated.
- 4.Don't copy this report in partial (except full copy) without any official approval in written by our company. This report is invalid without re-stamping the special seal for testing in copying report.
- 5.Any holder of this document is advised that this report is for the exclusive use of Intertek's Customer and is provided pursuant to the agreement between Intertek and its Customer. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. This report was made with due care within the limitation of a defined scope of work and on the basis of information, materials and instructions received from the Customer or its nominated third parties. Intertek is under no obligation to refer to or report upon any facts or circumstances which are outside the specific instructions received and accepts no responsibility to any parties whatsoever, following the issue of the report, for any matters arising outside the agreed scope of the works. The tests results are not intended to be a recommendation for any particular course of action. Customer is responsible for acting as it sees fit on the basis of such results.
- 6.Intertek's written consent is required to use Intertek's name or logo on the object, product or service being tested. The observations and test results in this report relate only to the sample under test. This report alone does not indicate that the item, product or service has passed any Intertek certification program.
- 7.The report was digital signed by Shang Hai, Intertek Group plc, please using Adobe Acrobat Reader to verify the authenticity.

# Test Report

Issue Date: 2021-12-13 Intertek Report No. 211019017SHF-002  
 Applicant: Shaoxing Yongsheng New Material Co., Ltd  
 Address: Hangzhou Bay Shangyu Economic and Technological Development Zone  
 Attn: Qingfeng Zhang  
 Test Type: Performance test, samples provided by the applicant.

## Product Information

<b>Product Name</b>	Co-extrusion WPC decking	<b>Brand</b>	Yongsheng
<b>Sample Description</b>	Good Condition	<b>Sample Amount</b>	26 pcs
		<b>Received Date</b>	2021-10-14
<b>Sample ID</b>	<b>Model</b>	<b>Specification</b>	
S211019017SHF.012~017	YSGJ142*22Y	/	

## Test Methods And Standards

<b>Test Standard</b>	EN 15534-4:2014 Section 4.4, 4.5.2, 4.5.5 EN 15534-1:2014 Section 6.4.2, 8.3.1, 8.3.2, Annex A CEN/TS 15676:2007, EN 321:2001, EN 317:1993, ASTM D7032-17 Section 4.5
<b>Specification Standard</b>	EN 15534-4:2014
<b>Test Conclusion</b>	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

  
 Name: Sally Xie  
 Title: Approver

  
  
 Name: Daniel Zhang  
 Title: Reviewer

  
 Name: Erin Huang  
 Title: Project Engineer

# Test Report

Issue Date: 2021-12-13

Intertek Report No. 211019017SHF-002

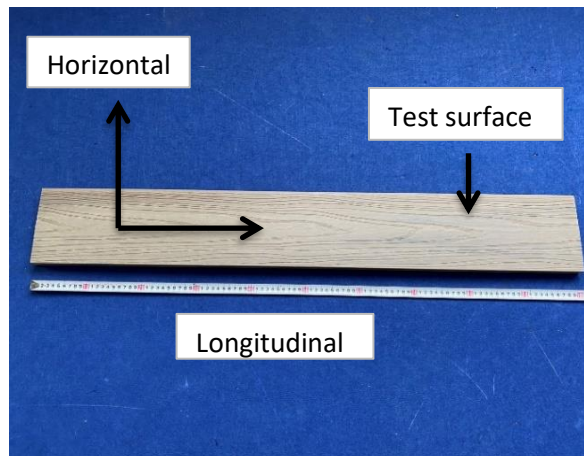
**Test Items, Method and Results:**

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	Longitudinal direction: Mean: Dry: 62 Wet: 41 Min.: Dry: 54 Wet: 38 Horizontal direction: Mean: Dry: 81 Wet: 42 Min.: Dry: 72 Wet: 38	Pendulum value $\geq 36$	Pass

Note:

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



# Test Report

Issue Date: 2021-12-13

Intertek Report No. 211019017SHF-002

### 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
Flexural properties	EN 15534-4:2014 Section 4.5.2 EN 15534-1:2014 Annex A	Bending Strength: 32.2 MPa Modulus of elasticity: 4193 MPa Maximum load: Mean: 3988 N Min.: 3926 N Deflection at 500N: Mean: 1.04 mm Max.: 1.09 mm	Flexural properties -F'max: Mean $\geq$ 3300 N Min. $\geq$ 3000 N -Deflection under a load of 500 N Mean $\leq$ 2,0 mm Max. $\leq$ 2,5 mm	Pass

Note:

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

# Test Report

Issue Date: 2021-12-13

Intertek Report No. 211019017SHF-002

**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
Moisture resistance under cyclic test conditions	EN 15534-4:2014 Section 4.5.5 EN 15534-1:2014 Section 8.3.2 EN 321:2001	Original Bending Strength: 32.2 MPa	Decrease of bending strength, Mean ≤ 20 % Max. ≤ 30 %	Pass
		After exposure, Mean Bending Strength: 29.1 MPa		
		Decrease: 9.6 %		
		Min Bending Strength: 28.2 MPa		
		Decrease: 12.3 %		

**Note:**

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

HEA  
有  
限  
公  
司  
测  
试

# Test Report

Issue Date: 2021-12-13

Intertek Report No. 211019017SHF-002

**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
Swelling and water absorption (28 days immersion)	EN 15534-4:2014 Section 4.5.5 EN 15534-1:2014 Section 8.3.1 EN 317:1993	<p>Mean Swelling:</p> <p>0.16 % in thickness 0.04 % in width 0.10 % in length</p> <p>Max. Swelling:</p> <p>0.27 % in thickness 0.06 % in width 0.10 % in length</p> <p>Water absorption:</p> <p>Mean: 1.09 % Max.: 1.10 %</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

# Test Report

Issue Date: 2021-12-13

Intertek Report No. 211019017SHF-002

**Test Items, Method and Results:**

Test Items	Test Method	Test Results
Temperature and moisture effects	ASTM D7032-17 Section 4.5 EN 15534-1:2014 Annex A	Temperature effect (-29°C, 72 h):
		Bending Strength (MOR): 42.8 MPa
		Modulus of elasticity (MOE): 5885 MPa
		Temperature effect (52°C, 72 h):
		Bending Strength (MOR): 21.8 MPa
		Modulus of elasticity (MOE): 2650 MPa
		Moisture effect (23°C in water, 72 h):
		Bending Strength (MOR): 31.6 MPa
		Modulus of elasticity (MOE): 4287 MPa

**Note:**

1. Exposure condition:

Lower temperature: Place in a freezer at -29°C for 72 hours

Upper temperature: Place in a dryer at 52°C for 72 hours

Moisture condition: Submerge underwater at 23°C for 72 hours

2. After exposure, flexural properties was tested as per EN 15534-1:2014 Annex A according to applicant's requirement.

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





## Test Report

Issue Date: 2021-12-13

Intertek Report No. 211019017SHF-002

### Test Items, Method and Results:

Test Item: Tensile strength-perpendicular to the plane of the board after immersion in water

Test Method: EN 319:1993

Conditioning: Conditioned at (23±2)°C and (50±5)% relative humidity for 48 hours, then immersion in water at room temperature for 28 days

#### Test Parameters:

Specimen size: 50mm × 50 mm (length × width)

Adhesive: Hot melt

Test speed: 3 mm/min

#### Test Result:

Tensile strength	Failure model
Mean: 2.90 N/mm <sup>2</sup>	Fracture within ribs

Tested photo of failure model



After test

## Test Report

Issue Date: 2021-12-13

Intertek Report No. 211019017SHF-002

### Appendix A: Sample Received Photo



Front view (Test surface)



Back view



Section view

#### Revision:

NO.	Date	Changes
211019017SHF-002	2021-12-13	First issue