

TEST REPORT

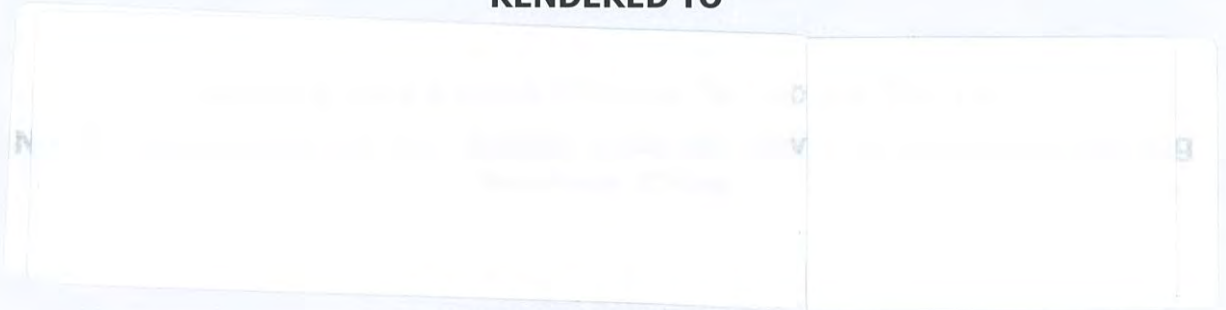
REPORT NUMBER: 161031007SHF-BP-1

ORIGINAL ISSUE DATE: 2016/11/16

EVALUATION CENTER

Intertek Testing Services Ltd., Shanghai
Plant 7, No. 6958 Daye Road, Fengxian District, Shanghai, China

RENDERED TO



PRODUCT EVALUATED

Co-extrusion Decking

EVALUATION PROPERTY

As requested by the applicant, for details refer to attached pages(s).

"This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program."

Report Template Revision Date: 2016/9/1

Test Report

Report Number: 161031007SHF-BP-1

Report Date: 2016-11-16

Applicant:

Applicant Address:

Attn:

Sample information:

Product:	Co-extrusion Decking
Model:	006G
Specification:	140x20mm
Sample Quantity:	9 pieces
Sample ID:	S161031007SHF-001~009
Date Received:	2016/10/12
Date Test Conducted:	2016/10/31~2016/11/12

Conclusion:

For details refer to attached page(s).

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

Test Report

Report Number: 161031007SHF-BP-1

Report Date: 2016-11-16

Test Items, Method and Results:

Test Item: Flexural properties

Sample Condition: 40 hours at a temperature of 23±2°C and relative humidity of 50±5%

Test Span: 320 mm

Test Items	Test Method	Test Results		
Flexural Properties	ASTM D7032-15 Section 4.4	Flexural strength (MOR):	29.5	Mpa
	ASTM D6109	Flexural Stiffness (MOE):	4566	MPa

Test Report

Report Number: 161031007SHF-BP-1

Report Date: 2016-11-16

Test Items, Method and Results:

Test Item: Freeze-thaw resistance

Sample Condition: Three cycles of water submersion, freezing and thawing.

Test Span: 320 mm

Test Items	Test Method	Test Results
Freeze-thaw Resistance	ASTM D7032-15 Section 4.7 ASTM D6109	Flexural strength (MOR): 29.8 Mpa
		Change rate: Increase 1%
		Flexural Stiffness (MOE): 5419 MPa
		Change rate: Increase 19%

Note:

Exposure cycle condition:

- 1) Submerge underwater for 24 hours
- 2) Place in a freezer at -29°C for 24 hours
- 3) Return to room temperature for 24 hours

Test Report

Report Number: 161031007SHF-BP-1

Report Date: 2016-11-16

Test Items, Method and Results:

Test Item: Specific gravity

Sample Condition: 40 hours at a temperature of $23\pm 2^{\circ}\text{C}$ and relative humidity of $50\pm 5\%$

Test Items	Test Method	Test Results
Specific Gravity	ASTM D7031-11 Section 5.14 ASTM D2395	1.323 g/cm ³

Test Report

Report Number: 161031007SHF-BP-1

Report Date: 2016-11-16

Test Items, Method and Results:

Test Item: Creep recovery

Sample Condition: 40 hours at a temperature of $23\pm 2^{\circ}\text{C}$ and relative humidity of $50\pm 5\%$

Test Condition: The load was applied for 24 hours and the specimens were allowed to recover with no superimposed load for 24 hours.

Test Span:

Test Load:

Test Items	Test Method	Test Results
Creep Recovery	ASTM D7032-15 Section 5.4	Max. Unrecovered deflection: 0.15 mm
		Mean Creep recovery: 86 %

Test Report

Report Number: 161031007SHF-BP-1

Report Date: 2016-11-16

Test Items, Method and Results:

Test Item: Impact resistance

Sample Condition: 40 hours at a temperature of $23\pm 2^{\circ}\text{C}$ and relative humidity of $50\pm 5\%$

Test Condition: The load was applied for 24 hours and the specimens were allowed to recover with no superimposed load for 24 hours.

Impactor diameter: 25 mm

Test Items	Test Method	Test Results
Impact resistance	ASTM D7031-11 Section 5.12 ASTM D4495	Mean failure energy: 80 J

Test Report

Report Number: 161031007SHF-BP-1

Report Date: 2016-11-16

Test Items, Method and Results:

Test Item: Moisture absorption and thickness swell

Sample Condition: Full cross section

Test Condition: Submersion in water at 20°C

Submersion Time: 24 hours

Test Items	Test Method	Test Results
Moisture Absorption and Thickness Swell	ASTM D7031-11 Section 5.19	Water absorption: 0.02 %
	ASTM D1037	Thickness swell: 0.03 %

Test Report

Report Number: 161031007SHF-BP-1

Report Date: 2016-11-16

Test Items, Method and Results:

Test Item: Mechanical fastener holding

Sample Condition: 40 hours at a temperature of $23\pm 2^{\circ}\text{C}$ and relative humidity of $50\pm 5\%$

Fastener type: offered by applicant, thread diameter was 4.60 mm

Test Items	Test Method	Test Results
Mechanical Fastener Holding	ASTM D7032-15 Section 5.5 ASTM D1761	Mean withdraw force: 3700 N



Test Report

Report Number: 161031007SHF-BP-1

Report Date: 2016-11-16

Test Items, Method and Results:

Test Item: Slip resistance

Sample Condition: 40 hours at a temperature of 23±2°C and relative humidity of 50±5%

Test Items	Test Method	Test Results
Slip Resistance	ASTM D7032-15 Section 5.6 ASTM D2394	Longitudinal: Static coefficient: 0.49 Sliding coefficient: 0.39 Horizontal: Static coefficient: 0.50 Sliding coefficient: 0.42



Test Report

Report Number: 161031007SHF-BP-1

Report Date: 2016-11-16

Test Items, Method and Results:

Test Item: Hardness

Sample Condition: 40 hours at a temperature of 23±2°C and relative humidity of 50±5%

Test Items	Test Method	Test Results
Hardness	ASTM D2240-15	Surface hardness: Shore D 62.5
		Core hardness: Shore D 71.0



Test Report

Report Number: 161031007SHF-BP-1

Report Date: 2016-11-16

Test Items, Method and Results:

Test Item: Abrasion resistance

Sample Condition: 40 hours at a temperature of 23±2°C and relative humidity of 50±5%

Abrasive wheels: CS-17

Test Load: 1000g

Revolutions: 1000

Test Items	Test Method	Test Results
Abrasion resistance	ASTM D7031-11 Section 5.17 ASTM D4060	Wear Index: 54.9

Test Report

Report Number: 161031007SHF-BP-1

Report Date: 2016-11-16

Test Items, Method and Results:

Test Item: Soluble elements analysis in non-surface coating materials

Test Method: With reference to section 4.3.5.2(2)(b) of the ASTM standard consumer safety specification on toy safety F963-11, acid extraction method was used and heavy metal elements migration content were determined by Inductively Coupled Argon Plasma Spectrometry.

Test Item	Test Result (ppm)	Detection Limit (ppm)	Limit in ASTM F963 (ppm)
Soluble Barium (Ba)	ND	5	1000
Soluble Lead (Pb)	ND	5	90
Soluble Cadmium (Cd)	ND	5	75
Soluble Antimony (Sb)	ND	5	60
Soluble Selenium (Se)	ND	5	500
Soluble Chromium (Cr)	ND	5	60
Soluble Mercury (Hg)	ND	5	60
Soluble Arsenic (As)	ND	2.5	25

Note:

ppm = parts per million = mg/kg

ND = Not detected (less than the detection limit)

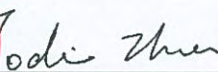
Appendix A: Sample received photo



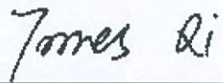
Approved by:



Name: Sun Sun
Title: Approver



Name: Jodie Zhou
Title: Reviewer



Name: Torres Qi
Title: Project Engineer

The End of Report