

Test Report

Number: GZHH00269326S1

Applicant: Huizhou Oakio Plastic Wood Building Materials Co.,Ltd.
11th Floor, Building 1, Huamao Building,
Wenchang Road 1, Huizhou, Guangdong, China

Date: Jan 25, 2018

Attn: Sam Xie

This is to supersede Report No. GZHH00269326 dated Jan 25, 2018

Sample Description:

One (1) group of submitted sample said to be :

Item Name : **Matshield (Co-extrusion) Composite Decking.**
 Manufacturer : Huizhou Oakio Plastic Wood Building Materials Co.,Ltd.
 Country of Origin : China
 Date Sample Received : Nov 08, 2017 & Jan 25, 2018



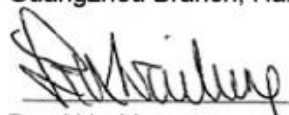
Tests conducted:

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

Conclusion:

Tested sample	Test item	Result
Submitted sample	Performance test on Matshield (Co-extrusion) Composite Decking. - As per the client's requirement	See test conducted

Authorized by:
For Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch, Hardlines


Ben N.L. Lin
General Manager



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Tests Conducted

1 Performance Test for Matshield (Co-extrusion) Composite Decking

As per the client's request, the tested samples were subjected to the following tests.

Sample description: Hollowed WPC flooring

Sample thickness: 23.5 mm

Initial inspection: No any damage was found

Executive summary:

No.	Test item	Test parameter	Test result	Verdict	
1	Swelling in thickness (24 h)	Test method: EN 317:1993 Specimen: 50×50×23.5 mm Immersion condition: 20±1°C, 24h, distilled water	0.18 %	--	
2	Linear thermal expansion	Test method: ISO 11359-2:1999 Method A Rate of temperature: 3 °C/min Load: 4 kPa Test mode: Compression Lab Environmental Condition: 23 ± 2 °C, 50 ± 5 % RH	Length direction: 36×10 ⁻⁶ K ⁻¹ Width direction: 43×10 ⁻⁶ K ⁻¹	--	
3	Density	Test method: ASTM D792-13 Method B Test condition: 23±2°C, distilled water	1.27 g/cm ³	--	
4	Light Ageing Test-UV Exposure	Test method: ASTM G154-16 & ASTM D2244-16 Exposure cycle: ASTM G154-16 cycle 1 Lamp type: UVA-340 8h UV at (60±3)°C BPT, 0.89 W/(m ² ·nm) @340nm 4h condensation at (50±3)°C BPT Exposure duration: 1000h	ΔE*ab = 5.72 (See photo on page 4)	--	
5	Tensile test	Test method: ASTM D638-14 Specimen: Type I Specimen thickness: 7.1 mm Testing speed: 5 mm/min Gauge length: 50 mm Grip separation: 115 mm	Tensile strength :	19.1 MPa	--
			Tensile modulus :	4154 MPa	--
			Poisson's ratio(μ _b):	0.36	--
			Stress-strain curve (see appendix)		



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No.	Test item	Test parameter	Test result	Verdict
6	Flexural test	Test method: With reference to ASTM D7032-17 Section 4.4 and ASTM D4761-13 Section 8 Specimen: 500×139×23.0 mm Testing speed: 11 mm/min Span: 369 mm	Flexural Strength: 25.3 MPa Flexural Stiffness: 4160 MPa	--
7	Temperature Effect (-29 ±2°C)	Test method: With reference to ASTM D7032-17 Section 4.5.1 and ASTM D4761-13 Section 8 Specimen: 500×139×23.0 mm Test condition: -29 ±2°C, 24h. Testing speed: 11 mm/min Span: 369 mm	Flexural Strength after conditioned: 33.9 MPa Flexural Strength change: 34.0 % Flexural Stiffness after conditioned: 6030MPa Flexural Stiffness change: 45.0% (See note)	--
8	Temperature Effect (52 ±2°C)	Test method: With reference to ASTM D7032-17 Section 4.5.1 and ASTM D4761-13 Section 8 Specimen: 500×139×23.0 mm Test condition: 52 ±2°C, 24h. Testing speed: 11 mm/min Span: 369 mm	Flexural Strength after conditioned: 16.9 MPa Flexural Strength change: -33.2 % Flexural Stiffness after conditioned: 2510MPa Flexural Stiffness change: -40.0% (See note)	--
9	Moisture Effect (85%RH)	Test method: With reference to ASTM D7032-17 Section 4.5.2 and ASTM D4761-13 Section 8 and client` requirement Specimen: 500×139×23.0 mm Test condition: 85%RH, 24h. Testing speed: 11 mm/min Span: 369 mm	Flexural Strength after conditioned: 27.3 MPa Flexural Strength change: 7.9 % Flexural Stiffness after conditioned: 4360MPa Flexural Stiffness change: 4.8 % (See note)	--



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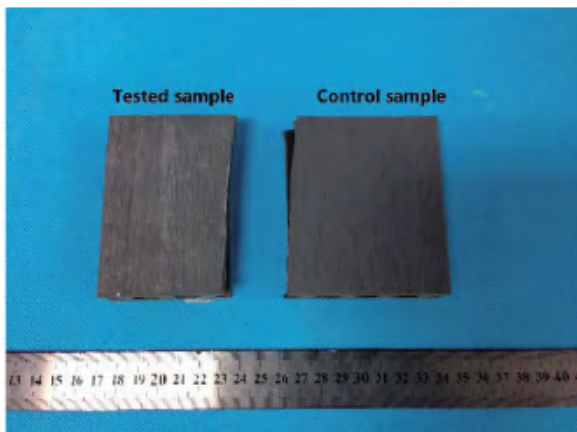
Number: GZHH00269326S1

Tests Conducted

No.	Test item	Test parameter	Test result	Verdict
10	Freeze-Thaw Resistance Test	Test method: With reference to ASTM D7032-17 Section 4.7 and ASTM D4761-13 Section 8 Specimen: 500×139×23.0 mm Freeze-thaw exposure cycle : ① Submerge underwater for 24h→② -29℃, 24h→③ 23±2℃, 24h→Step ①~③ as one cycle, total three cycles Testing speed: 11 mm/min Span: 369 mm	Flexural Strength after freeze-thaw resistance: 24.9 MPa Flexural Strength change: -1.6 % Flexural Stiffness after freeze-thaw resistance: 3650MPa Flexural Stiffness change: -12.3 % (See note)	--
11	Resistance to indentation	Test method: EN 15534-1:2014 Section 7.5 Specimen: 50×50×23.5 mm Indenter diameter: 10 mm Loading procedure: Apply a preload of 20 N and increase the force to 2KN within 30±10s and maintain the force for 25s. Withdraw the indenter completely and recover for 24 h	Brinell hardness: 61.5 MPa	--
12	Pendulum test value	Test method: BS 7976-2:2002+A1 : 2013 Specimens: 200 mm × 139 mm, 6 pcs. Lab Environmental Condition: 23 ± 2 °C	Dry condition: 82 Wet condition: 59	--
13	Charpy impact strength	Test method: EN ISO 179-1:2010 Specimen type: EN ISO 179-1/1fU Impact speed: 2.90 m/s Span: 62 mm	2.6 kJ/m ² C (Complete break)	--

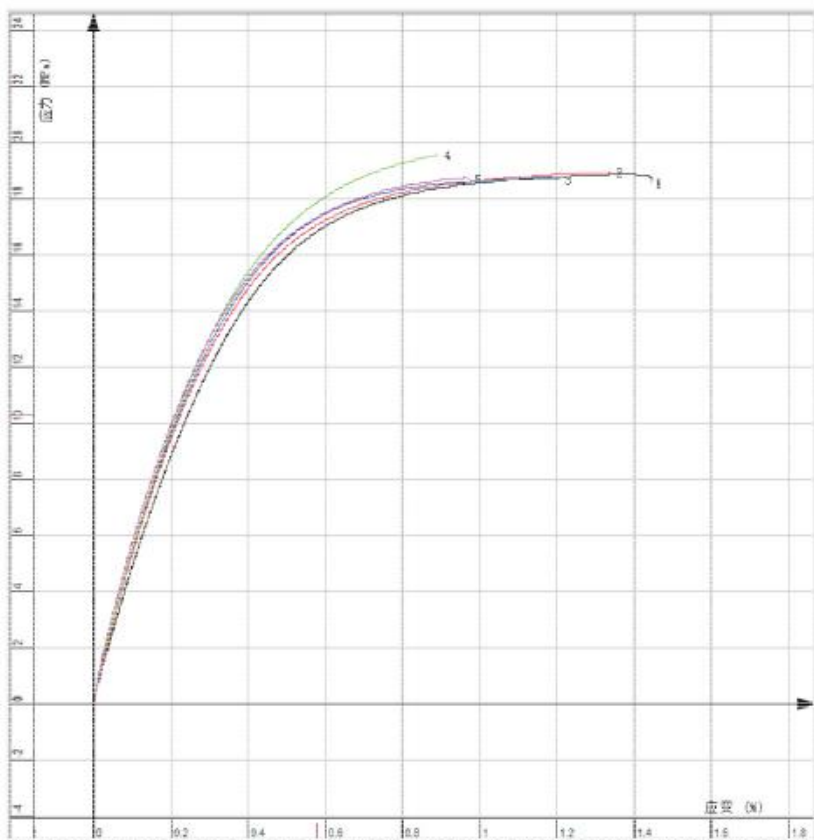
Note: The change of flexural performance= (conditioned values- control values)/ control values × 100%

Reference Photo for Light Ageing Test - UV Exposure



Tests Conducted

Appendix: Stress-strain curve



End of report

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To: HUIZHOU OAKIO PLASTIC WOOD BUILDING
MATERIALS CO.,LTD.
Attention: Sam Xie

Ref: FC-180
Date: Mar 15, 2018

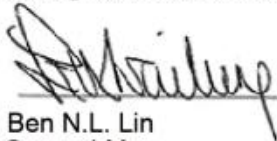
Re : Report Revision Notification

Intertek Testing Services Report Number GZHH00269326 Dated Jan 25, 2018

Please be informed that all the content recorded in the above captioned report will be void. This captioned report is now supersede by a revised Intertek Testing Services Report, GZHH00269326S1

Thank you for your attention.

Authorized by:
For Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch, Hardlines



Ben N.L. Lin
General Manager

