

Report Date: June 29, 2016**Sample Description:**

Product: Wood Plastic Composites
Model: size: 140×20mm (width×thick) , 006G
Sample Quantity: 25 pieces, 2100mm length
Sample ID: S151207001SHF-051~075
Date Received: WPC board received on 2015/12/21, Screws received on 2016/1/27
Date Test Conducted: 2016/1/27~2016/6/2

Tests Conducted:

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

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 Items, Method and Results:

Test Items	Test Methods	Requirements	Results	Verdict
Flexural properties ¹	EN 15534-1:2014 Annex A EN 15534-4: 2014 Section 4.5.2	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	Bending Strength: 45.0 Mpa Modulus of elasticity: 3.6 Gpa Maximum load: Mean: 5342 N Min.: 5216 N Deflection at 500N: Mean: 1.72 mm Max.: 1.91 mm	Pass
Tensile Strength perpendicular to the panel	EN 319:1993	/	Tensile Strength: > 4.04 N/mm ²	N/A
Density	EN 15534-1:2014 Section 6.2 ISO 1183-1 Method A	/	1.292 g/cm ³	N/A
Slipperiness (Pendulum test)	EN 15534-1:2014 Section 6.4.2 CEN/TS 15676	Pendulum value ≥ 36	Mean: Longitudinal: 62 Horizontal: 85 Min.: Longitudinal: 60 Horizontal: 84	Pass
Impact resistance	EN 15534-1:2014 Section 7.1.1 EN ISO 179-1:2010	/	5.8 kJ/m ²	N/A

Creep behaviour ²	EN 15534-1:2014 Section 7.4.1 EN 15534-4: 2014 Section 4.5.3	Known span in use Mean $\Delta S \leq 10$ mm Max. $\Delta S \leq 13$ mm Mean $\Delta Sr \leq 5$ mm	Span: 300 mm Mean ΔS : 2.13 mm Max. ΔS : 2.25 mm Mean ΔSr : 1.24 mm	Pass
Resistance to indentation	EN 15534-1:2014 Section 7.5 EN 1534: 2010	/	Apply 2000N load, Brinell hardness: 58.1 N/mm ² Rate of elastic recovery: 52%	N/A
Nail and Screw withdrawal	EN 15534-1:2014 Section 7.6 EN 13446: 2002	/	Surface withdrawal: 48.5 N/mm ² Edge withdrawal: 44.1 N/mm ²	N/A
Resistance to artificial weathering	EN 15534-1:2014 Section 8.1 EN ISO 4892-2:2013 Cycle 1	/	After 2000 hours exposure $\Delta E^* = 0.72$, Grey Scale 4-5 There was slight color change	N/A
Tensile Strength perpendicular to the panel	EN ISO 4892-2:2013 Cycle 1 EN 319:1993	/	After 2000 hours exposure Tensile Strength: > 3.44 N/mm ²	N/A
Moisture resistance under cyclic test conditions ³	EN 15534-1:2014 Section 8.3.2 and 7.3.2 EN 15534-4: 2014 Section 4.5.5.2	Decrease of bending strength, Mean ≤ 20 % Max. ≤ 30 %	Original MOR: 45.0 Mpa After exposure, Mean MOR: 45.1 Mpa increase: 0.2 % Min MOR: 43.6 Mpa Decrease: 3%	Pass

Moisture resistance under cyclic test conditions ³	Refer to EN 15534-1:2014 Section 8.3.2 and 8.3.1	/	Mean Swelling: 0.05% in thickness 0.01% in width 0.02% in length Max. Swelling: 0.05% in thickness 0.03% in width 0.03% in length Water absorption: Mean: 0.19% Max.: 0.23%	N/A
	Refer to EN 15534-1:2014 Section 8.3.2 and EN 319:1993	/	Tensile Strength: > 4.30 N/mm ²	N/A
Boiling Test Swelling and water absorption	EN 15534-1:2014 Section 8.3.3 and 8.3.1 EN 15534-4: 2014 Section 4.5.5.4	Water absorption in weight: Mean ≤ 7% Max. ≤9%	Water absorption in weight: Mean: 0.15% Max.: 0.16%	Pass

Boiling Test Tensile Strength perpendicular to the panel	EN 15534-1:2014 Section 8.3.3 and 8.3.1	/	Mean Swelling: 1.12% in thickness 0.18% in width 0.13% in length Max. Swelling: 1.27% in thickness 0.21% in width 0.17% in length	N/A
	EN 15534-1:2014 Section 8.3.3 EN 319:1993	/	Tensile Strength: > 3.26 N/mm ²	N/A
Swelling and water absorption (24 hours immersion)	EN 15534-1:2014 Section 8.3.1 EN 15534-4: 2014 Section 4.5.5.3	Means swelling: ≤ 4 % in thickness ≤ 0,8 % in width ≤ 0,4 % in length Max. swelling: ≤ 5 % in thickness ≤ 1,2 % in width ≤ 0,6 % in length Water absorption: Mean ≤ 7 % Max. ≤ 9 %	Mean Swelling: 0.02 % in thickness 0.001 % in width 0.002 % in length Max. Swelling: 0.10 % in thickness 0.01% in width 0.01% in length Water absorption: Mean: 0.09% Max.: 0.11%	Pass
Resistance against discolouring micro-fungi	EN 15534-1:2014 Section 8.5.5 ISO 16869:2008	/	Rating 0, no growth	N/A

		Limit (mg/kg)	result (mg/kg)	
Pb, Cu content	EN 71-3:2013	Copper (Cu): 7700	< 10	N/A
		Lead (Pb): 160	< 10	
Linear thermal expansion ⁴	ASTM D696:2008e1	/	39.3×10 ⁻⁶ /°C	N/A
Formaldehyde ⁵	ASTM D6007:2014	/	Not detected	N/A

Note:

1. For the item 1, 2, 3, the test span was 300mm, which was required by applicant
2. For the item 4, the test temperature was from -30°C to 30°C
3. For the item 5,
 - (1) As per ASTM D6007:2014 small scale chamber method, formaldehyde content was detected by UV-spectrophotometer
Chamber type: 1m³ stainless steel chamber
 - (2) Climatic conditions: 25°C, 50%R.H.
 - (3) Air exchange rate: 0.5 h⁻¹
 - (4) Loading factor: 0.95 m²/m³
 - (5) Detection limit = 0.02 ppm
 - (6) ppm = parts per million

Appendix A: Sample received photo



Fig 1. Front view



Fig 2. Section view

Approved by:

Name: Sun Sun

Title: Approver

Name: Daniel Zhang

Title: Reviewer

Name: Torres Qi

Title: Project Engineer

The End of Report

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