

# FLOORCO TRADING LTD.

## TEST REPORT

**SCOPE OF WORK**

FLOORCO ATWOOD & GL Engineered wood flooring

**REPORT NUMBER**

230822002SHF-010

**TEST DATE(S)**

2023-08-23 - 2023-10-08

**ISSUE DATE**

2023-11-01

**PAGES**

17

**DOCUMENT CONTROL NUMBER**

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Intertek Testing Services Shenzhen Ltd. Shanghai Fengxian Branch



## Test Report

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## Test Report

Issue Date: 2023-11-01 Intertek Report No. 230822002SHF-010  
 Applicant: FLOORCO TRADING LTD.  
 Address: 118 CARBINE ROAD, MT WELLINGTON  
 Attn: Terry SHI  
 Test Type: Performance test, samples provided by the applicant.

### Product Information

<b>Product Name</b>	FLOORCO ATWOOD & GL Engineered wood flooring	<b>Brand</b>	/
<b>Sample Description</b>	Good Condition	<b>Sample Amount</b>	48 pcs
		<b>Received Date</b>	2023-08-23
<b>Sample ID</b>	<b>Model</b>	<b>Specification</b>	
S230822002SHF.026~032, 034~037	FLOORCO ATWOOD & GL	1900mm×190mm×14mm	

### Test Methods And Standards

<b>Test Standard</b>	ASTM D2394-17(2022), Section 18, 36, ASTM D4060-19, ASTM D1308-20 7.2 spot test, covered, ASTM D1455-17(2023), ASTM D523-14(2018), ASTM D3359-22 Method B, ASTM C518-21, ASTM D4226-19 <sup>e1</sup> Procedure A, ISO 4918:2016/Amd.1:2018, EN ISO 16581:2019, With reference to ISO 1518-1:2019
<b>Specification Standard</b>	/
<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 does not involve sampling. The report only reflects conformity of the tested items of the samples provided by the testing applicant. Representativeness and authenticity of the submitted samples are responsibilities of the testing applicant.

### Report Authorized

*Sally Xie*  *Jackie Zhou*  
 Name: Sally Xie Name: Jackie Zhou  
 Title: Reviewer Title: Project Engineer

# Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

### Test Items, Method and Results:

Test Item: Falling-ball indentation

Test Method: ASTM D2394-17(2022), Section 18

Test Condition:

Steel ball diameter: 51 mm

Steel ball mass: 535 g

Test Results:

Drop height, mm	Indentation on surface, mm	Observation
305	7.10	No crack
1800	/	No crack

# Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

**Test Items, Method and Results:**

Test items	Test Methods	Test Results	
Coefficient of Friction	ASTM D2394-17(2022) Section 36	MD dry condition:	
		Static coefficient mean:	0.62
		Sliding coefficient mean:	0.57
		MD wet condition:	
		Static coefficient mean:	0.86
		Sliding coefficient mean:	0.50
		AMD dry condition:	
		Static coefficient mean:	0.58
		Sliding coefficient mean:	0.55
		AMD wet condition:	
Static coefficient mean:	0.92		
Sliding coefficient mean:	0.59		

Note:

1. MD=Manufacturing direction; AMD=Across-manufacturing direction.



# Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

### Test Items, Method and Results:

Test Item: Abrasion/Wear resistance

Test Method: ASTM D4060-19

Conditioning: Condition the test specimens at (23±2)°C and (50±5)% relative humidity for at least 24h

Test Condition:

Rotation frequency: 60 r/min

Abrasive material: S-33 abrasive paper strips

Load on each wheel: 1000 g

Test revolutions: 100 r

Test Result:

Parameter	Specimen 1	Specimen 2	Specimen 3
Mass/Weight loss, (mg)	103.9	72.3	80.8
Average value, (mg)	85.7		
Worn out	Yes	Yes	Yes

Note:

1. Abbreviation "r" = revolutions/cycles
2. Test conditions were specified by client.

# Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

### Test Items, Method and Results:

Test Item: Chemical Resistance

Test Method: ASTM D1308-20 7.2 spot test, covered

Conditioning: Condition at the temperature(23±2)°C and relative humidity (50±5)% for at least 1 week

Test Time: 16h

### Results:

Reagents	Test Results
Distilled Water(cold)	Not affected
Distilled Water(hot)	Not affected
50% Ethyl Alcohol	Not affected
Vinegar (3 % acetic acid)	Not affected
Alkali Solution(5% NaOH)	Not affected
Acid Solution(10% HCl)	Not affected
Soap Solution	Not affected
Detergent solution	Not affected
Fruit (Lemon)	Not affected
Vegetable oils	Not affected
Mustard	Not affected
Coffee (Nescafe)	Not affected
Tea (Lipton Green Tea)	Not affected

# Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

### Test Items, Method and Results:

Test Item: Gloss value

Test Method: ASTM D1455-17(2023), ASTM D523-14(2018)

Conditioning: Condition the specimen at  $(23 \pm 2)$  °C and a relative humidity of  $(50 \pm 5)$  % for at least 24h

Test Condition: 85° geometry

### Results:

Parameter	Test Results
Mean gloss value	7.9



# Test Report

Issue Date: 2023-11-01

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### Test Items, Method and Results:

Test Item: Adhesion by tape test

Test Method: ASTM D3359-22 Method B

Conditioning: Condition the test specimens at  $(23 \pm 2)^{\circ}\text{C}$  and  $(50 \pm 5)\%$  relative humidity

### Results:

Specimen	Rating
1	5B
2	5B
3	5B
Mean	5B

Rating	Description
5B	The edges of the cuts are completely smooth; none of the squares of the lattice is detached.
4B	Small flakes of the coating are detached at intersections; less than 5 % of the area is affected.
3B	Small flakes of the coating are detached along edges and at intersections of cuts. The area affected is 5 to 15 % of the lattice.
2B	The coating has flaked along the edges and on parts of the squares. The area affected is 15 to 35 % of the lattice.
1B	The coating has flaked along the edges of cuts in large ribbons and whole squares have detached. The area affected is 35 to 65 % of the lattice.
0B	Flaking and detachment worse than Classification 1B.

## Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

### Test Items, Method and Results:

Test Item: Thermal conductivity and thermal resistance

Test Method: ASTM C518-21

Conditioning: Condition the test specimen at (23±2)°C and (50±5)% relative humidity to constant mass

### Test Result:

Sample	Thickness	Mean Temperature	Temperature Difference	Thermal Conductivity	Thermal Resistance
	(mm)	(°C)	(°C)	(W/m·K)	(m <sup>2</sup> ·K)/W
1	14.36	23.91	20.52	0.101	0.142
2	14.37	23.84	20.49	0.102	0.140
3	14.24	23.88	20.44	0.099	0.144
Average	14.32	24	20	0.101	0.142

## Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

### Test Items, Method and Results:

Test Item: Impact Resistance

Test Method: ASTM D4226-19<sup>e1</sup> Procedure A

Conditioning: Conditioned at (23±2)°C and (50±10)% relative humidity for not less than 40 hours

Test Parameters:

Impactor-head: H.25

Average thickness: 14mm

Results:

Test height: 5cm

Test weight: 1.03kg

Test result: crack

## Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

### Test Items, Method and Results:

Test Item: Castor chair test

Test Method: ISO 4918:2016/Amd.1:2018

Conditioning: Condition the test specimens at  $(23 \pm 2)^\circ\text{C}$  and  $(50 \pm 5)\%$  relative humidity for at least 24h

Test Condition: At a temperature range of  $18^\circ\text{C}$  to  $25^\circ\text{C}$

Load mass: 90 kg

Test castors: Type W

Speed of rotating platform: 20 r/min

Speed of castor assembly: 50 r/min

Total test revolutions: 25000 r

Mounting of the specimen: Floating installation with click joints

### Test Result:

Type of damage	Observation (Yes/No)	Verdict
Delamination	No	Pass
Opening of joints	No	
Surface damage	No	
Crazing	No	
Maximum opening	0.04mm	No requirement Report the result
Maximum height differences	0.20mm	

### Test Photo:



After test

# Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

### Test Items, Method and Results:

Test Item: Effect of simulated movement of a furniture leg

Test Method: EN ISO 16581:2019

Conditioning: Condition the test specimens at  $(23 \pm 2)^{\circ}\text{C}$  and  $(50 \pm 5)\%$  relative humidity for at least 5 days

Test Condition:

Type of Feet: Type 0

Applied Mass: 32 kg

Test Speed: 0.18 m/s

Test Result:

Path	Observation		Verdict
	Length direction/Longitudinal direction	Width direction/Transverse direction	
1	No visible damage	No visible damage	Pass
2	No visible damage	No visible damage	
3	No visible damage	No visible damage	

Record the damage caused for each test path if any damage is observed

- a) deterioration in the flatness of the surface;
- b) damage which partially destroys the surface;
- c) cuts of varying depths;
- d) penetrating edges;
- e) in the case of an open joint floor covering, a joint opening greater or equal to 1 mm;
- f) in the case of a treated or welded joint, its failure.

## Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

### Test Items, Method and Results:

Test Item: Effect of simulated movement of a furniture leg

Test Method: EN ISO 16581:2019

Conditioning: Condition the test specimens at  $(23 \pm 2)^{\circ}\text{C}$  and  $(50 \pm 5)\%$  relative humidity for at least 5 days

Test Condition:

Type of Feet: Type 2

Applied Mass: 100 kg

Test Speed: 0.18 m/s

Test Result:

Path	Observation		Verdict
	Length direction/Longitudinal direction	Width direction/Transverse direction	
1	No visible damage	No visible damage	Pass
2	No visible damage	No visible damage	
3	No visible damage	No visible damage	

Record the damage caused for each test path if any damage is observed

- a) deterioration in the flatness of the surface;
- b) damage which partially destroys the surface;
- c) cuts of varying depths;
- d) penetrating edges;
- e) in the case of an open joint floor covering, a joint opening greater or equal to 1 mm;
- f) in the case of a treated or welded joint, its failure.

# Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

### Test Items, Method and Results:

Test Item: Effect of simulated movement of a furniture leg

Test Method: EN ISO 16581:2019

Conditioning: Condition the test specimens at  $(23 \pm 2)^{\circ}\text{C}$  and  $(50 \pm 5)\%$  relative humidity for at least 5 days

Test Condition:

Type of Feet: Type 3

Applied Mass: 70 kg

Test Speed: 0.18 m/s

Test Result:

Path	Observation		Verdict
	Length direction/Longitudinal direction	Width direction/Transverse direction	
1	No visible damage	No visible damage	Pass
2	No visible damage	No visible damage	
3	No visible damage	No visible damage	

Record the damage caused for each test path if any damage is observed

- a) deterioration in the flatness of the surface;
- b) damage which partially destroys the surface;
- c) cuts of varying depths;
- d) penetrating edges;
- e) in the case of an open joint floor covering, a joint opening greater or equal to 1 mm;
- f) in the case of a treated or welded joint, its failure.

## Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

### Test Items, Method and Results:

Test Item: Scratch resistance

Test Method: With reference to ISO 1518-1:2019

Conditioning: Condition the test specimens at  $(23 \pm 2)^\circ\text{C}$  and  $(50 \pm 5)\%$  relative humidity for at least 16h

Test Condition:

Scratch stylus: Hemispherical hard-metal tip of diameter  $(0.50 \pm 0.01)\text{mm}$

Test speed:  $(35 \pm 5)\text{ mm/s}$

Test Result:

Direction	Test Load(N)	Appearance
Horizontal	20	Visible scratch on the surface, but no penetration to the substrate.
Vertical	20	Visible scratch on the surface, but no penetration to the substrate.

Note:

1. Observation magnification is 4X.

Test photos:



After test (Horizontal)



After test (Vertical)



## Test Report

Issue Date: 2023-11-01

Intertek Report No. 230822002SHF-010

### Appendix A: Sample Received Photo



Front view(Test surface)



Back view

### Revision:

NO.	Date	Changes
230822002SHF-010	2023-11-01	First issue

