FLOORCO TRADING LTD.

TEST REPORT

SCOPE OF WORK
FLOORCO HOMY & ANTICO Engineered wood flooring

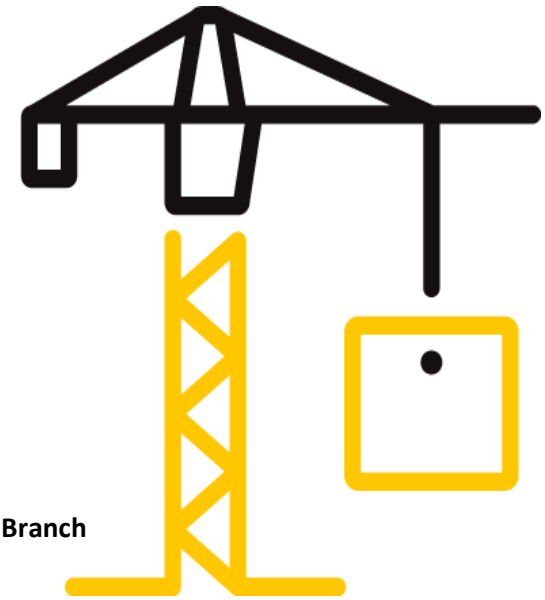
REPORT NUMBER
230822002SHF-013

TEST DATE(S)
2023-08-23 - 2023-10-08

ISSUE DATE
2023-11-01

PAGES
17

DOCUMENT CONTROL NUMBER
LFT-APAC-SHF-OP-10k(September 1, 2022)



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-013
Applicant: FLOORCO TRADING LTD.
Address: 118 CARBINE ROAD, MT WELLINGTON
Attn: Terry SHI
Test Type: Performance test, samples provided by the applicant.

Product Information

Product Name	FLOORCO HOMY & ANTICO Engineered wood flooring	**Brand**	/
Sample Description	Good Condition	**Sample Amount**	40 pcs
		Received Date	2023-08-23

Sample ID	Model	Specification
S230822002SHF.045~051, 053~056	FLOORCO ATWOOD & ANTICO	2200mm×220mm×20mm

Test Methods And Standards

Test Standard	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^{e1} Procedure A, ISO 4918:2016/Amd.1:2018, EN ISO 16581:2019, With reference to ISO 1518-1:2019
Specification Standard	/
Test Conclusion	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-013

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	8.09	No crack
1800	/	No crack

Test Report

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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:	0.37
		Sliding coefficient mean:	0.31
		MD wet condition:	
		Static coefficient mean:	0.64
		Sliding coefficient mean:	0.60
		AMD dry condition:	
		Static coefficient mean:	0.39
		Sliding coefficient mean:	0.33
		AMD wet condition:	
		Static coefficient mean:	0.87
		Sliding coefficient mean:	0.54

Note:

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

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Total Quality. Assured.

Test Report

Issue Date: 2023-11-01 Intertek Report No. 230822002SHF-013

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)	77.4	76.6	70.4
Average value, (mg)	74.8		
Worn out	No	No	No

Note:

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

Test Report

Issue Date: 2023-11-01 Intertek Report No. 230822002SHF-013

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

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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 ± 2) °C and a relative humidity of (50 ± 5) % for at least 24h

Test Condition: 60° geometry

Results:

Parameter	Test Results
Mean gloss value	18.8

Test Report

Issue Date: 2023-11-01 Intertek Report No. 230822002SHF-013

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 ± 2)°C and (50 ± 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

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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)	$(m^2 \cdot K)/W$
1	20.44	23.68	20.85	0.119	0.172
2	20.50	23.53	20.93	0.116	0.177
3	20.46	23.78	20.18	0.116	0.176
Average	20.47	24	21	0.117	0.175

Test Report

Issue Date: 2023-11-01 Intertek Report No. 230822002SHF-013

Test Items, Method and Results:

Test Item: Impact Resistance

Test Method: ASTM D4226-19^{e1} 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: 20mm

Results:

Test height: 5cm

Test weight: 1.03kg

Test result: crack

Test Report

Issue Date: 2023-11-01 Intertek Report No. 230822002SHF-013

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 ± 2)°C and (50 ± 5)% relative humidity for at least 24h

Test Condition: At a temperature range of 18°C to 25 °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	0.21mm	

Test Photo:

After test

Test Report

Issue Date: 2023-11-01 Intertek Report No. 230822002SHF-013

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 ± 2)°C and (50 ± 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-013

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 ± 2)°C and (50 ± 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-013

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 ± 2)°C and (50 ± 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.

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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 ± 2)°C and (50 ± 5)% relative humidity for at least 16h

Test Condition:

Scratch stylus: Hemispherical hard-metal tip of of diameter (0.50±0.01)mm

Test speed: (35±5) 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

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Appendix A: Sample Received Photo

Front view(Test surface)

Back view

Revision:

NO.	Date	Changes
230822002SHF-013	2023-11-01	First issue