

Lions Floor

TEST REPORT

SCOPE OF WORK

SPC floors

REPORT NUMBER

240725011SHF-002

TEST DATE(S)

2024-07-25 - 2024-08-13

ORIGINAL ISSUE DATE

2024-08-22

PAGES

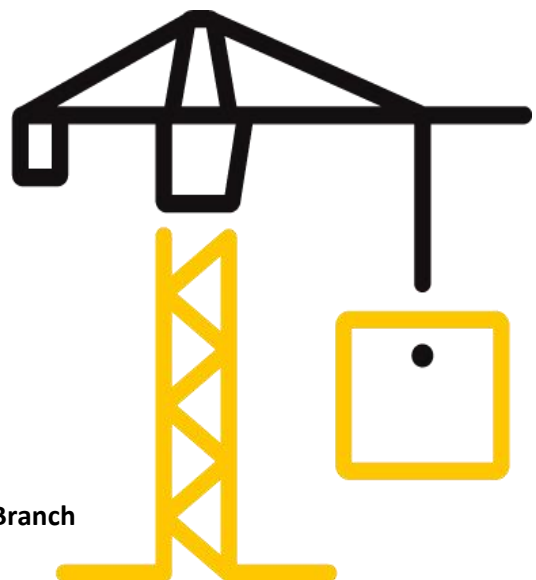
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DOCUMENT CONTROL NUMBER

LFT-APAC-SHF-OP-10k(February 1, 2024)

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Intertek Testing Services Shenzhen Ltd. Shanghai Fengxian Branch



Test Report

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Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Applicant: Lions Floor

Address: 7300 somerset blvd, paramount, CA 90723

Attn: Jerry Guo

Test Type: Performance test, samples provided by the applicant.

Product Information

Product Name	Model	Specification
SPC floors	Grande	1213*181*4.5mm+1.5mm
Sample ID	Sample Amount	Sample Received Date
S240725011SHF.018~032	110 pieces	2024-05-21
Sample Description		
1213*181*4.5mm+1.5mm		


Test Methods And Standards

Test Standard	With reference to ASTM D2047-17 and client's requirement, ASTM F3261-20 section 8.1, 8.3, 8.5, 8.6, 8.7, ASTM F1514-19, ASTM F1515-21, ASTM F1914-18(2023), ISO 23999:2021, ASTM F387-17(2022), ASTM F410-08(2022), ANSI A326.3-2021, ASTM D4060-19, ASTM D903-98(2017), ASTM F970-22, ISO 24334:2019, ISO 4918:2016/Amd.1:2018
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


Name: Sally Xie Name: Daniel Zhang
Title: Reviewer Title: Project Engineer

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Test Items, Method and Results:

Test Item	Test Method	Test Result
Static Coefficient of Friction (Standard Leather)	With reference to ASTM D2047-17 and client's requirement	Dry: 0.57 Wet ² : 0.96

Note:

1. ASTM D2047 does not require test under wet condition, test result is only for reference as per the client's requirement.



Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Test Items, Method and Results:

Test Item: Resistance to heat

Test Method: ASTM F3261-20 section 8.5 and ASTM F1514-19

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

Test Condition:

Temperature: 70 °C

Exposure time: 7 days

Spectrophotometer: Under D65 standard light source, 10° observer

Test Result:

Specimen	ΔE^*	Average ΔE^*
1	0.31	0.32
2	0.28	
3	0.36	

Test Photo:



After exposure

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Test Items, Method and Results:

Test Item: Resistance to light

Test Method: ASTM F3261-20 section 8.6 and ASTM F1515-21

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

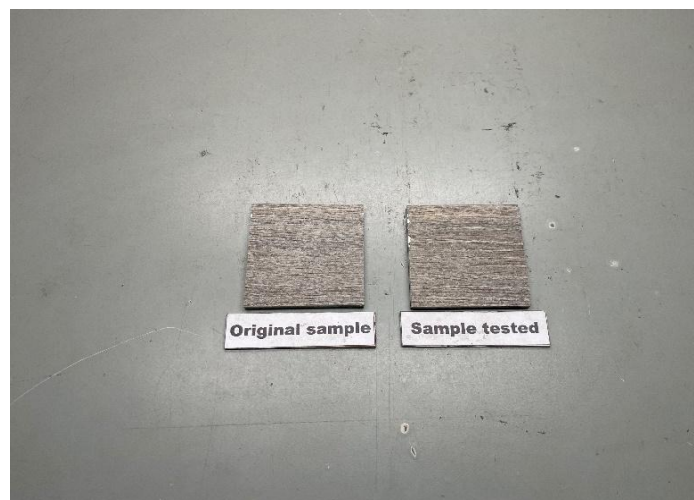
Test Condition:

Light source: Xenon-arc lamps
Irradiance: 0.30 $\text{W}/(\text{m}^2 \cdot \text{nm})$ at 340nm
Black-panel temperature: 63 ± 2 $^\circ\text{C}$
Relative humidity: 50 ± 10 %
Exposure time: 300 h
Spectrophotometer: Under D65 standard light source, 10° observer

Test Result:

Specimen	ΔE^*	Average ΔE^*
1	2.05	1.99
2	1.46	
3	2.47	

Test Photo:



After exposure

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Test Items, Method and Results:

Test Item: Residual indentation

Test Method: ASTM F3261-20 section 8.1 and ASTM F1914-18(2023)

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

Test Condition:

Indenter: Steel cylindrical foot
Indenter diameter: 6.35 mm
Total load applied: 34 kg
Indentation time: 15 min
Recovery time: 60 min

Test Result:

Residual Indentation	Result (mm)
Specimen 1	0.10
Specimen 2	0.06
Specimen 3	0.07
Average value	0.08
Max. value	0.10

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Test Items, Method and Results:

Test Item: Dimensional stability and curling
 Test Method: ASTM F3261-20 section 8.3 and ISO 23999:2021

Conditioning:
 Temperature: 23 °C
 Relative humidity: 50 %
 Duration: 24 h
 Measure the initial length and curling

Test Condition:
 Temperature: 70 °C
 Duration: 6 h

Reconditioning:
 Temperature: 23 °C
 Relative humidity: 50 %
 Duration: 24 h
 Measure the final length and curling

Test Result:

Specimen	Dimensional stability (%)		Curling (in.)
	Length direction/Machine direction	Width direction/Across machine direction	
1	0.00	0.06	0.017
2	0.00	0.03	0.005
3	0.00	0.03	0.004
Average	0.00	0.04	0.009
Max.	0.00	0.06	0.017

Note:

- Dimensional stability = (final length - initial length)×100/initial length
 Express the average value to the nearest 0.05%
 A negative value indicates shrinkage and a positive value indicates growth.
- Curling = final curling - initial curling
 Express the average value to the nearest 0.5mm
 Upward curling is expressed as a positive value and downward curling (sometimes referred to as doming) is expressed as a negative value.

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Test Items, Method and Results:

Test Item: Thickness

Test Method: ASTM F387-17(2022)

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

Test Condition:

Foot diameter of thickness gage: 6.35 mm

Mass applied: 28 g

Product with foam back layer: Yes

Test Result:

Nominal value: 6.0 mm

Average value: 6.02 mm

Tolerance: 0.02 mm

Max. value: 6.03 mm

Min. value: 6.00 mm

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Test Items, Method and Results:

Test Item: Wear layer thickness

Test Method: ASTM F410-08(2022)

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

Test Result:

Nominal value: 0.50 mm

Average value: 0.51 mm

Max. value: 0.52 mm

Min. value: 0.50 mm

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Test Items, Method and Results:

Test Item: Dynamic Coefficient of Friction

Test Method: ANSI A326.3-2021

Test Results:

Test Items	Test Method	Test Results	
Dynamic Coefficient of Friction	ANSI A326.3-2021	Dry condition:	0.56
		Wet condition:	0.43

Note:

1. Test item is subcontracted on accreditation by CNAS L1978.

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

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 wheels: CS-17

Load on each wheel: 1000 g

Test revolutions: 2500 r

Test Result:

Parameter	Specimen 1	Specimen 2	Specimen 3
Mass/Weight loss, (mg)	83.5	71.0	74.2
Average value, (mg)	76.2		

Note:

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

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Test Items, Method and Results:

Test Item: Peel Strength

Test Method: ASTM D903-98(2017)

Conditioning: Condition the test specimens at (23±1)°C and (50±2)% relative humidity for at least 7days

Test Condition:

Test Speed: 152.4 mm/min

Test Result:

Test Items	Test Results
Peel Strength	Length direction/Machine direction mean value: 0.26kg/mm
	Width direction/Across machine direction mean value: 0.27kg/mm

Note:

1. Finish product was provided by client, peel strength of wear layer and substrate was tested.

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Test Items, Method and Results:

Test Item: Static load resistance

Test Method: ASTM F3261-20 section 8.7 and ASTM F970-22

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

Test Condition:

Indenter diameter: 28.6 mm
Total load applied: 250 lb / 250 psi
Indentation time: 24 h
Recovery time: 24 h

Test Result:

Residual Indentation	Result (mm)
Specimen 1	0.21
Specimen 2	0.26
Specimen 3	0.30
Average value	0.26
Max. value	0.30

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Test Items, Method and Results:

Test Item: Locking Strength

Test Method: ISO 24334:2019

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

Test Condition: Test speed 0.5 mm/min

Test Result:

Longitudinal joint

Parameter	Average Result
Maximum locking strength F_{max} (N)	1274
Specific locking strength (kN/m)	6.1
Locking strength at 0.2 mm joint opening $F_{0.2}$ (N)	703
Specific locking strength at 0.2 mm joint opening (kN/m)	3.4

Transverse joint

Parameter	Average Result
Maximum locking strength F_{max} (N)	969
Specific locking strength (kN/m)	5.4
Locking strength at 0.2 mm joint opening $F_{0.2}$ (N)	633
Specific locking strength at 0.2 mm joint opening (kN/m)	3.5

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

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	0.03mm	No requirement Report the result
Maximum height differences	0.18mm	

Note:

Test specimens were not taken apart for assessment after test as per client's requirement.

Test Photo:



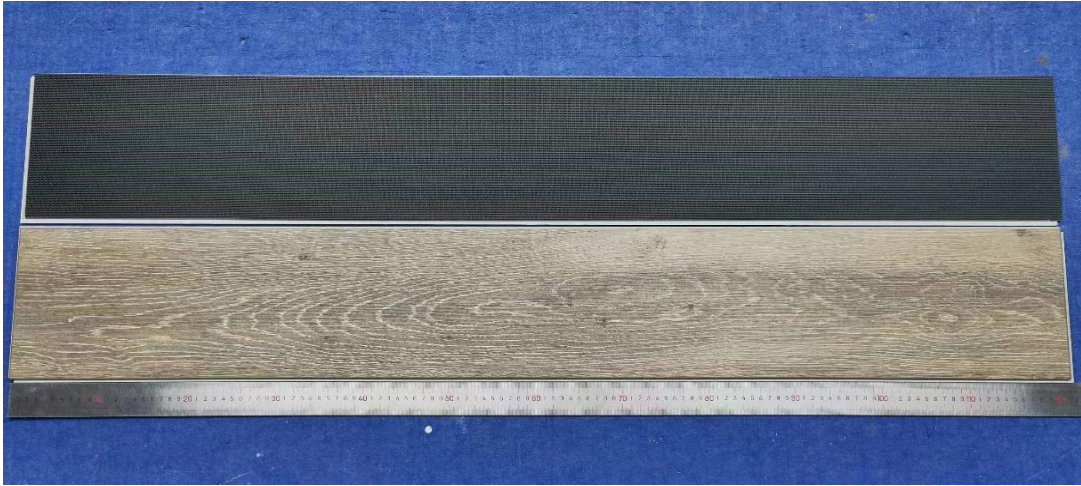
After test

Test Report

Original Issue Date: 2024-08-22

Intertek Report No. 240725011SHF-002

Appendix A: Sample Received Photo



Revision:

NO.	Date	Changes
240725011SHF-002	2024-08-22	First issue