Lions Floor

TEST REPORT

SCOPE OF WORK
WPC floors

REPORT NUMBER
240726001SHF-001-R1

TEST DATE(S)
2024-07-26 - 2024-08-13

ORIGINAL ISSUE DATE **REVISED DATE**
2024-08-22 2024-08-29

PAGES
17

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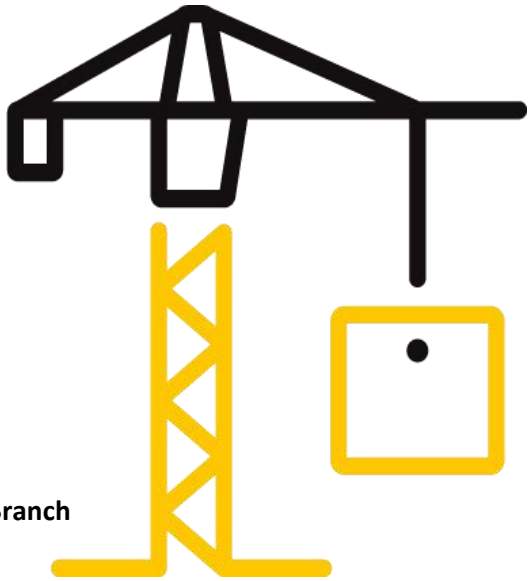

Intertek Testing Services Shenzhen Ltd. Shanghai Fengxian Branch

Test Report

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Test Report

Original Issue Date: 2024-08-22 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

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
WPC floors	Canyon Coast	1830*224.8*8+2mm
Sample ID	**Sample Amount**	**Sample Received Date**
S240726001SHF.001~015	56 pieces	2024-05-31
Sample Description		
1830*224.8*8+2mm		

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: Flora Fan Name: Daniel Zhang
Title: Reviewer Title: Project Engineer

Test Report

Original Issue Date: 2024-08-22 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

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: 0.61 Wet[1]: 1.00

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 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

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	0.44	0.46
2	0.44	
3	0.50	

Test Photo:



After exposure

Test Report

Original Issue Date: 2024-08-22 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

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

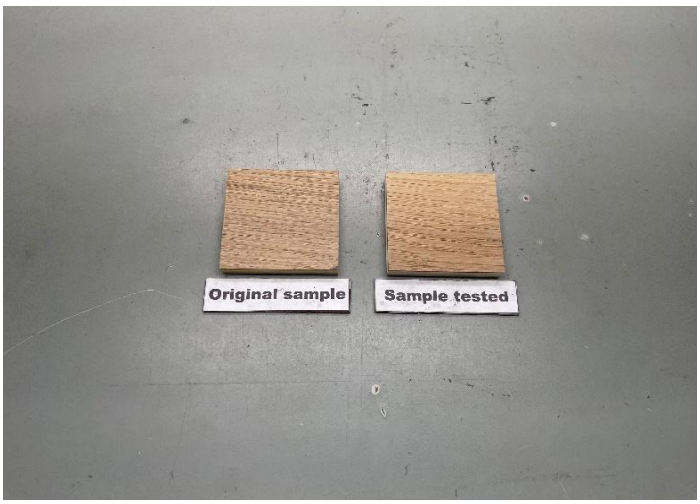
Test Condition:

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

Test Result:

Specimen	ΔE*	Average ΔE*
1	2.18	1.45
2	1.07	
3	1.11	

Test Photo:



After exposure

Test Report

Original Issue Date: 2024-08-22 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

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 ± 2)°C and (50 ± 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	0.05
Specimen 2	0.06
Specimen 3	0.05
Average value	0.05
Max. value	0.06

Test Report

Original Issue Date: 2024-08-22 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

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	-0.08	0.00	0.028
2	-0.08	0.00	0.003
3	-0.08	0.00	0.028
Average	-0.08	0.00	0.020
Max.	-0.08	0.00	0.028

Note:

1. 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.

2. 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 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

Test Items, Method and Results:

Test Item: Thickness

Test Method: ASTM F387-17(2022)

Conditioning: Condition the test specimens at (23 ± 2)°C and (50 ± 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:	10.0	mm
Average value:	10.25	mm
Tolerance:	0.25	mm
Max. value:	10.27	mm
Min. value:	10.24	mm

Test Report

Original Issue Date: 2024-08-22 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

Test Items, Method and Results:

Test Item: Wear layer thickness
Test Method: ASTM F410-08(2022)
Conditioning: Condition the test specimens at (23 ± 2)°C and (50 ± 5)% relative humidity for at least 24h

Test Result:

Nominal value:	0.50	mm
Average value:	0.50	mm
Max. value:	0.51	mm
Min. value:	0.49	mm

Test Report

Original Issue Date: 2024-08-22 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

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: Wet condition:	0.48 0.40

Note:

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

Test Report

Original Issue Date: 2024-08-22 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

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: 1000 r

Test Result:

Parameter	Specimen 1	Specimen 2	Specimen 3
Mass/Weight loss, (mg)	115.4	81.0	91.8
Average value, (mg)	96.1		

Note:

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

Test Report

Original Issue Date: 2024-08-22 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

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: 0.40kg/mm
	Width direction/Across machine direction mean value: 0.42kg/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 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

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 ± 2)°C and (50 ± 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	0.32
Specimen 2	0.43
Specimen 3	0.34
Average value	0.36
Max. value	0.43

Test Report

Original Issue Date: 2024-08-22 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

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)	1010
Specific locking strength (kN/m)	4.8
Locking strength at 0.2 mm joint opening $F_{0.2}$ (N)	496
Specific locking strength at 0.2 mm joint opening (kN/m)	2.4

Transverse joint

Parameter	Average Result
Maximum locking strength F_{max} (N)	1310
Specific locking strength (kN/m)	6.3
Locking strength at 0.2 mm joint opening $F_{0.2}$ (N)	714
Specific locking strength at 0.2 mm joint opening (kN/m)	3.4

Test Report

Original Issue Date: 2024-08-22 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

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	0.02mm	No requirement Report the result
Maximum height differences	0.16mm	

Test Photo:



After test

Test Report

Original Issue Date: 2024-08-22 Revised Date: 2024-08-29 Intertek Report No. 240726001SHF-001-R1

Appendix A: Sample Received Photo



Revision:

NO.	Date	Changes
240726001SHF-001	2024-08-22	First issue
240726001SHF-001-R1	2024-08-29	Revise typo on page 4

Note: Since the issue date of 240726001SHF-001-R1 report, the original report 240726001SHF-001 was cancelled at the same time.