

Zhejiang New Insight Material Technology Co., Ltd.

TEST REPORT

REPORT NUMBER

181219007SHF-001

ISSUE DATE

2019/1/9

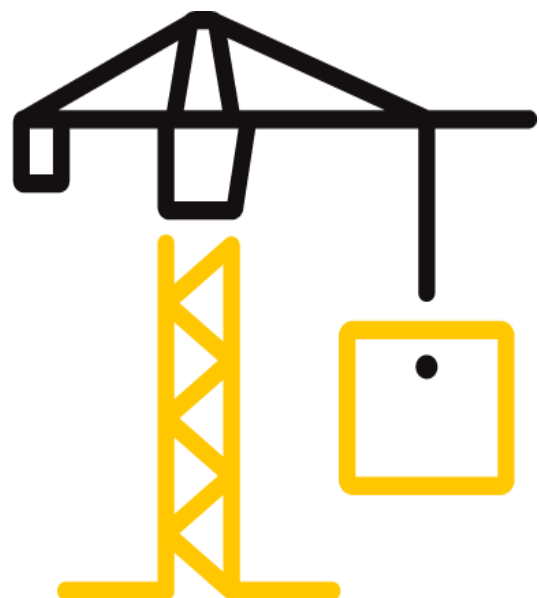
PAGES

14

DOCUMENT CONTROL NUMBER

LFT-APAC-SHF-OP-10k

© 2018 INTERTEK



Test Report

Issue Date: 2019/1/9 Intertek Report No. 181219007SHF-001

Applicant: Zhejiang New Insight Material Technology Co., Ltd.

Applicant Address: No.72 Yongping North Road, Wukang Town, Deqing County, Zhejiang Province, China

Attn: Jianbin Jiang

SUBJECT: Performance testing
SPC FLOORING

Dear Sir,

This test report represents the results of our evaluation of the above referenced product(s) to the requirements contained in the following standards:

TEST METHODS AND STANDARDS	
Refer to the next following Pages.	

SAMPLE ID	MODEL	SPECIFICATION
S181219007SHF.001,004~006,009~010,013~014,018~019	W103	1220*180*6.0mm
S181219007SHF.007	W111	240*240*4.5mm

SAMPLE RECEIVED: 2018/12/13
TESTED FROM: 2018/12/19 TO 2019/1/9

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

Test Report

Issue Date: 2019/1/9

Intertek Report No. 181219007SHF-001

Test Items, Method and Results:

Test Item: Size

Test Method: ISO 24337:2006

Test Sample: S181219007SHF.001

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

Test Result:

Test item	Nominal value (mm)	Tested value (mm)	Tolerance (mm)
Length	1220	1219.78	0.22
Width	180	179.88	0.12

Test Report

Issue Date: 2019/1/9

Intertek Report No. 181219007SHF-001

Test Items, Method and Results:

Test Item: Squareness and Straightness

Test Method: ISO 24337:2006

Test Sample: S181219007SHF.004~005

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

Test Item	Test Result
Squareness	$q_{\max} = 0.10 \text{ mm}$
Straightness	$S_{\max} = 0.04 \text{ mm/m}$

Test Report

Issue Date: 2019/1/9

Intertek Report No. 181219007SHF-001

Test Items, Method and Results:

Test Item: Thickness of wear layer

Test Method: EN 429:1993

Test Sample: S181219007SHF.006

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

Test Result:

Average value: 0.27 mm

Max. value: 0.29 mm

Min. value: 0.25 mm

Test Report

Issue Date: 2019/1/9

Intertek Report No. 181219007SHF-001

Test Items, Method and Results:

Test Item: Peel resistance

Test Method: EN 431:1994

Test Sample: S181219007SHF.013

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

Test Condition:

Speed: 100 mm/min

Test Result:

Test Item	Test Direction	Result
Peel resistance	Length direction/Machine direction	Average: 115 N/50mm Min: 115 N/50mm
	Width direction/Across machine direction (max. load)	Average: 140 N Min: 130 N

Note:

1. Express the result to the nearest 5N/50mm.
2. For the width direction, there was fracture occurred of the surface layer and the maximum load at fracture was recorded only.

Test Report

Issue Date: 2019/1/9

Intertek Report No. 181219007SHF-001

Test Items, Method and Results:

Test Item: Dimensional stability and curling

Test Method: EN 434:1994

Test Sample: S181219007SHF.007

Conditioning:

Temperature: 23 °C

Relative Humidity: 50 %

Duration: 24 h

Measure the initial length and curling

Test Condition:

Temperature: 80 °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 (mm)
	Length direction/Machine direction	Width direction/Across machine direction	
1	0.06	0.01	0.04
2	0.06	0.01	0.04
3	0.06	0.01	0.04
Average	0.05	0.00	0.0
Max.	0.06	0.01	0.04

Note:

1. Dimensional stability = $(\text{initial length} - \text{final length}) \times 100 / \text{initial length}$

Express the average value to the nearest 0.05%

A negative value indicates expansion, and a positive value indicates shrinkage.

2. Curling = final curling - initial curling

Express the average value to the nearest 0.5mm

Test Report

Issue Date: 2019/1/9

Intertek Report No. 181219007SHF-001

Test Items, Method and Results:

Test Item: Dynamic coefficient of friction

Test Method: EN 13893:2002

Test Sample: S181219007SHF.014

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

Test Condition:

Applied Mass: 9.92 kg

Test Speed: 0.25 m/s

Test Result:

Specimen	Length direction/Machine direction	Width direction/Across machine direction
1	0.38	0.40
2	0.36	0.41
3	0.37	0.42
average	0.37	0.41
Result	0.37	

Note: Express the result as the lower of the two average values in each direction.

Test Report

Issue Date: 2019/1/9

Intertek Report No. 181219007SHF-001

Test Items, Method and Results:

Test Item: Micro-scratch resistance

Test Method: EN 16094:2012, Procedure A

Test Sample: S181219007SHF.018

Conditioning: Condition the test specimens at $(23 \pm 2)^{\circ}\text{C}$ and $(50 \pm 5)\%$ relative humidity for at least 1 week

Test Condition:

Scrub material: SB 7447 (very fine)

Holder for scrub material: Version 2, 6N

Speed factor: 1

Number of rubs: 80

Glossmeter geometry: 85°

Test Result:

Specimen	Gloss change (%)
1	17.5
2	14.3
3	21.5
Average value	17.8
Classification	MSR-A2

Classification of mean values of gloss change as per EN 16094 procedure A

Micro-Scratch resistance class according to procedure A	Change of gloss
MSR-A1	$\leq 10\%$
MSR-A2	$> 10\%$ to $\leq 30\%$
MSR-A3	$> 30\%$ to $\leq 50\%$
MSR-A4	$> 50\%$ to $\leq 70\%$
MSR-A5	$> 70\%$

Test Report

Issue Date: 2019/1/9

Intertek Report No. 181219007SHF-001

Test Items, Method and Results:

Test Item: Micro-scratch resistance

Test Method: EN 16094:2012, Procedure B

Test Sample: S181219007SHF.019

Conditioning: Condition the test specimens at $(23 \pm 2)^\circ\text{C}$ and $(50 \pm 5)\%$ relative humidity for at least 1 week

Test Condition:

Scrub material: SB 7440 (medium fine)

Holder for scrub material: Version 1, 4N

Speed factor: 1






Number of rubs: 160

Reconditioning: Condition the tested specimens at $(23 \pm 2)^\circ\text{C}$ and $(50 \pm 5)\%$ for 24 h before visual assessment

Test Result:

Specimen	Visual assessment	Classification
1	Only few scratches	MSR-B2
2	Only few scratches	MSR-B2
3	Only few scratches	MSR-B2
Average value	Only few scratches	MSR-B2

Classification for visual assessment as per EN 16094 procedure B

Resistance class	Scratch picture	Explanation
MSR-B1		No visible scratches
MSR-B2		Only few scratches
MSR-B3		Many well visible scratches
MSR-B4		A great many well visible raw and fine scratches, Lissajous figure partly visible
MSR-B5		Mix of Lissajous figure and great many scratches, mat abrasion like area in the middle

Test Report

Issue Date: 2019/1/9

Intertek Report No. 181219007SHF-001

Test Items, Method and Results:

Test Item: Phthalate Content Test

Test Sample: S181219007SHF.010

Test Method: With reference to EN 14372: 2004, by Gas Chromatography-Mass Spectrometry (GC-MS) analysis.

Test Item	Test Result (mg/kg)
Di-iso-nonyl phthalate (DINP)	ND
Di-n-octyl phthalate (DNOP)	ND
Di-iso-decyl phthalate (DIDP)	ND
Di-n-hexyl phthalate (DnHP)	ND
Di-n-pentyl phthalate (DnPP)	ND
Di-cyclohexyl phthalate (DCHP)	ND
Di-ethyl phthalate (DEP)	ND
Di-nonyl phthalate (DNP)	ND
Di-methyl phthalate (DMP)	ND
Di-propyl phthalate (DPrP)	ND
Di-(iso-octyl) phthalate (DIOP)	ND
Diphenyl phthalate (DPhP)	ND
Dibenzyl phthalate (DBzP)	ND
Di-n-decyl phthalate (DnDP)	ND
Diundecyl phthalate (DUP)	ND
Bis(4-methyl-2-pentyl) phthalate (BMPP)	ND

Note:

1. Detection limit = 100 mg/kg
2. ND = Not detected (less than the detection limit)

Test Report

Issue Date: 2019/1/9

Intertek Report No. 181219007SHF-001

Test Items, Method and Results:

Test Item: RoHS chemical test

Test Sample: S181219007SHF.009

Test Result:

Test Items	Limits	Test Result (mg/kg)
Cadmium (Cd)	0.01%(100mg/kg)	ND
Lead (Pb)	0.1%(1000mg/kg)	ND
Mercury (Hg)	0.1%(1000mg/kg)	ND
Chromium (VI) (Cr ⁶⁺)	0.1%(1000mg/kg)	ND
Polybrominated biphenyls (PBBs)	0.1%(1000mg/kg)	ND
Polybrominated diphenyl ethers (PBDEs)	0.1%(1000mg/kg)	ND
Bis(2-ethylhexyl)phthalate (DEHP)	0.1%(1000mg/kg)	ND
Butyl benzyl phthalate (BBP)	0.1%(1000mg/kg)	ND
Dibutyl phthalate (DBP)	0.1%(1000mg/kg)	ND
Diisobutyl phthalate (DIBP)	0.1%(1000mg/kg)	ND

Remark:

1. mg/kg = milligram per kilogram
2. ND = Not Detected
3. The above limits were quoted from 2011/65/EU and (EU) 2015/863 for homogeneous material.
4. Test methods were shown in next page.

Test Report

Issue Date: 2019/1/9

Intertek Report No. 181219007SHF-001

Test Method:

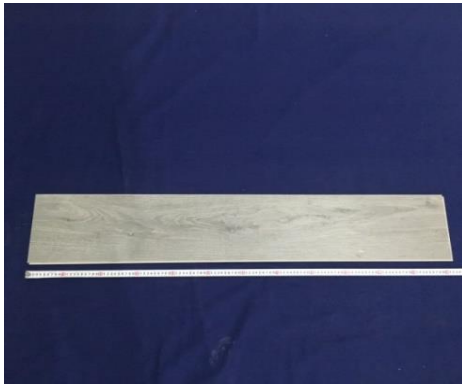
Test item	Test method	Report Limit
Cadmium (Cd)	With reference to IEC 62321-5 Edition 1.0:2013, by acid digestion until the tested sample was totally dissolved and determined by ICP-OES	2 mg/kg
Lead (Pb)	With reference to IEC 62321-5 Edition 1.0:2013, by acid digestion until the tested sample was totally dissolved and determined by ICP-OES	2 mg/kg
Mercury (Hg)	With reference to IEC 62321-4 Edition 1.1:2017, by acid digestion until the tested sample was totally dissolved and determined by ICP - OES	2 mg/kg
Chromium (VI) (Cr ⁶⁺)	With reference to IEC 623217-2 Edition 1.0:2017, by alkaline digestion and determined by UV-VIS Spectrophotometer	10 mg/kg
Polybrominated biphenyls (PBBs) & polybrominated diphenyl ethers (PBDEs)	With reference to IEC 62321-6 Edition 1.0:2015, by solvent extraction and determined by GC/MS and further HPLC confirmation when necessary.	5 mg/kg
Phthalates (DEHP, BBP, DBP, DIBP)	With reference to IEC 62321-8 Edition 1.0:111/321/CD, by solvent extraction and determined by GC/MS	100 mg/kg

Test Report

Issue Date: 2019/1/9

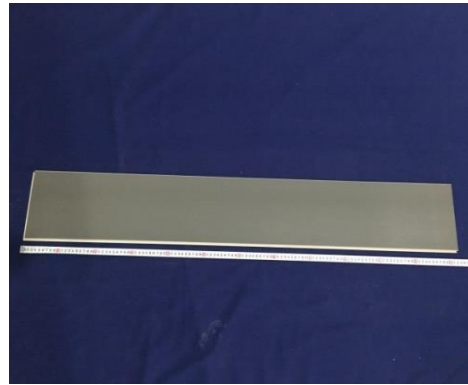
Intertek Report No. 181219007SHF-001

APPENDIX: SAMPLE RECEIVED PHOTO



Front View

(S181219007SHF.001,003~006,009~010,013~015,017~019)

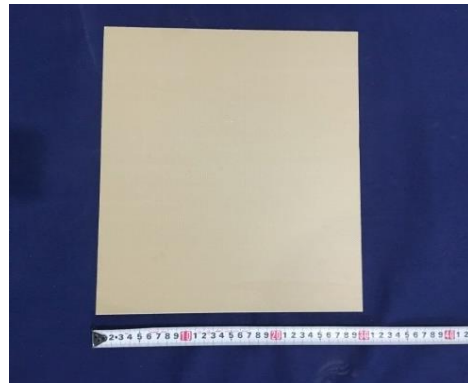


Back View

(S181219007SHF.001,003~006,009~010,013~015,017~019)



Front View (S181219007SHF.007)



Back View (S181219007SHF.007)

REPORT AUTHORIZED

When signed with physical or electronic signature, the contents of this report have been prepared and approved per Intertek's quality process in accordance with ISO 17025.





Name: Torres Qi Name: Kyle Wang
 Title: Reviewer Title: Project Engineer

Revision:

NO.	DATE	CHANGES	AUTHOR	REVIEWER
181219007SHF-001	2019/1/9	First issue	Kyle Wang	Torres Qi