

Test Report No.: CZHL2012505265HI

Date: Dec 21, 2020

Page 1 of 9

EN BOIS FLOORING
2511 S EDISON WAY, COMPTON, CA 90220

The following sample(s) was/were submitted and identified by/on behalf of the client as:

Sample Description : SCRATCH RESISTANCE SPC FLOORING
Style No. : 86166XL-003
Country of Origin : CHINA
Country of Destination : USA
SGS No. : CZXHL20000938602

Sample Receiving Date : Dec 14, 2020
Testing Period : Dec 14, 2020 to Dec 21, 2020
Testing Performed : Follow selected test(s) as requested by client.

	Test Requirement	Conclusion
1	Resilient floor coverings — Determination of dimensional stability and curling after exposure to heat (ISO 23999:2018)	See Result
2	CONSUMER PRODUCT SAFETY COMMISSION---16 CFR Part 1307 [Docket No. CPSC-2014-0033], Final Rule, amending CPSIA section 108, Prohibition on Sale of Certain Products Containing Specified Phthalates	Pass
3	Standard Test Methods for Short-Term Indentation and Residual Indentation of Resilient Floor Covering (ASTM F1914-18)	See Result

*** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) ***



Berix Li
Authorized Signatory



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1. Resilient floor coverings — Determination of dimensional stability and curling after exposure to heat (ISO 23999:2018)

- 1) Number of test sample: 6 pcs
- 2) Test details see below table:

Clause	Test Description	Result
Determination of dimensional stability and curling after exposure to heat	<p>1. Condition the test specimens on a flat surface, such as a table surface, to ensure that they are in contact with the support plate uniformly during the measurements.</p> <p>Condition the test specimens at a temperature of 23 °C ± 2 °C and relative humidity of 50 % ± 5 % for a minimum of 24 h.</p> <p>2. Make eight scores on each sheet or tile test specimen approximately 20 mm from the edges.</p> <p>Make four scores in each direction to form four crosses, at a distance of 200 mm ± 1 mm.</p> <p>If utilized for planks, a different spacing is required for width.</p> <p>Mark the two reference points for measurement on the top of the test specimen and measure, with the wear surface up, on the block and the optical bench assembly, to ensure that any embossing along the edge of the test specimen wear surface does not affect the measurements.</p> <p>To make the scores more easily visible, the scores may be marked with a solution of dye in aqueous alcohol (i.e. whiteboard marker or equivalent).</p> <p>Place each test specimen on a support plate with its surface facing upward. Condition the test specimen.</p> <p>3. Measure the vertical distance between the support plate and the wear surface of the test specimen in four places around the edge (usually the corners), where the distance is greatest.</p> <p>Carry out the measurements with the micrometer.</p> <p>CAUTION — When handling test specimens and making measurements, to avoid distortion, do not apply undue force to the test specimen.</p> <p>4. On each test specimen, determine the length of four measurement sections: two in the manufacturing direction</p>	<p>Dimensional stability:</p> <p>MD: 0.10%</p> <p>AMD: 0.05%</p> <p>Curling: 0.5mm</p>



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Clause	Test Description	Result
	<p>(MD) of the flooring material and two in the transverse or across-manufacturing (TD or AMD) direction.</p> <p>Put the rigid plate on top of the test specimen and measure the length between the crosses formed by the scores.</p> <p>Start the heat exposure portion of the test within 1 h of making the initial dimensional measurements.</p> <p>5. Place the test specimens horizontally onto support plates, previously placed in the oven.</p> <p>Allow to come to test temperature (80 ± 2) °C (standard default temperature unless otherwise cited in a flooring specification document). Maintain the test specimens at this temperature for 6h₀⁺¹⁵ min (standard default time, unless otherwise cited in a flooring specification document) in the oven. If a different temperature and/or time is utilized, the test sheet shall accurately reflect the conditions used to test the curling and dimensional stability. The same tolerances for temperature and time, as required for default conditions, apply to any different set of temperature/time conditions utilized.</p> <p>6. Remove the test specimens from the oven. Allow the test specimens to recondition for 24 h (unless otherwise specified for the product). Do not remove the test specimens from the metal plate until the reconditioning time has elapsed and the measurements are to be performed.</p> <p>7. After reconditioning, measure the dimensional changes to the test specimen.</p> <p>8. Re-measure curling as described before. Make sure that the optical device is at the same reference points for both the initial and final measurements.</p> <p>1) For sheet, tile and if utilized on plank test specimens Make sure to place the rigid metal plate on top of the specimens and re-measure the length between the crosses formed by the scores, i.e. the new distance of each measurement section.</p>	



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Clause	Test Description	Result
	<p>Make sure that the optical device is at the same reference points for both the initial and final measurements.</p> <p>2) For tile and plank (partial) test specimens measured using block and dial gauge</p> <p>Place the test specimen on the block and dial gauge. Record the length at the specified location. For planks, use the calibrated shim or spacer block to allow the measurement of plank width differences with the block and dial gauge apparatus.</p> <p>9. Calculation and expression of results</p> <p>9.1 For curling</p> <p>Calculate the mean value of the four measurements for each test specimen. The initial and final values are expressed separately. Calculate the mean value for the three test specimens. Express the results in millimetres to the nearest 0,5 mm.</p> <p>9.2 For dimensional stability</p> <p>For each of the test directions (machine direction and across machine direction), record the variations for the six length measurements (two readings from three test specimens). Calculate the dimensional change for each measurement section related to the initial length. The linear change, dL_{complete}, expressed as a percentage, is given by the following formula:</p> $dL_{\text{complete}} = \frac{(L_0 - L_1)}{L_0} \times 100$ <p>Where :</p> <p>dL_{complete} is the linear change in dimension(s) after complete test, expressed as a percentage;</p> <p>L_0 is the initial length</p> <p>L_1 is the length after test</p>	

Note:

- The sizes of test specimen is 220mm x 220mm.
- The above testing was conducted on the received sample 2.



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**2. CONSUMER PRODUCT SAFETY COMMISSION—16 CFR Part 1307 [Docket No. CPSC–2014–0033],
Final Rule, amending CPSIA section 108, Prohibition on Sale of Certain Products Containing Specified
Phthalates**

Test Method: With reference to CPSC-CH-C1001-09.4(2018), analysis was performed by GC-MS.

Result Data:

Test Item(s)	Limit	Units	MDL	1
Benzyl Butyl Phthalate (BBP)	0.1	%	0.005	ND
Dibutyl Phthalate (DBP)	0.1	%	0.005	ND
Dicyclohexyl Phthalates (DCHP)	0.1	%	0.005	ND
Di(2-ethyl hexyl) Phthalate (DEHP)	0.1	%	0.005	ND
Di-n-hexyl Phthalates (DHEXP/ DnHP)	0.1	%	0.005	ND
Diisobutyl Phthalates (DIBP)	0.1	%	0.005	ND
Diisononyl Phthalate (DINP)	0.1	%	0.005	ND
Dipentyl Phthalates (DPENP)	0.1	%	0.005	ND
Conclusion				Pass

Notes:

(1) On October 27, 2017, the CPSC published the final rule in the Federal Register (82 FR 49938) to restrict phthalates in toys and child care articles under section 108 of the CPSIA, this final rule has in effect restricted a total of eight phthalates in children's toys and child care articles. It will become effective on April 25, 2018, and applies to toys and child care articles that are manufactured or imported from this date.

(2) Composite test has been performed.

Remark: The above chemical testing was conducted on the received sample 1.



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Test Results:

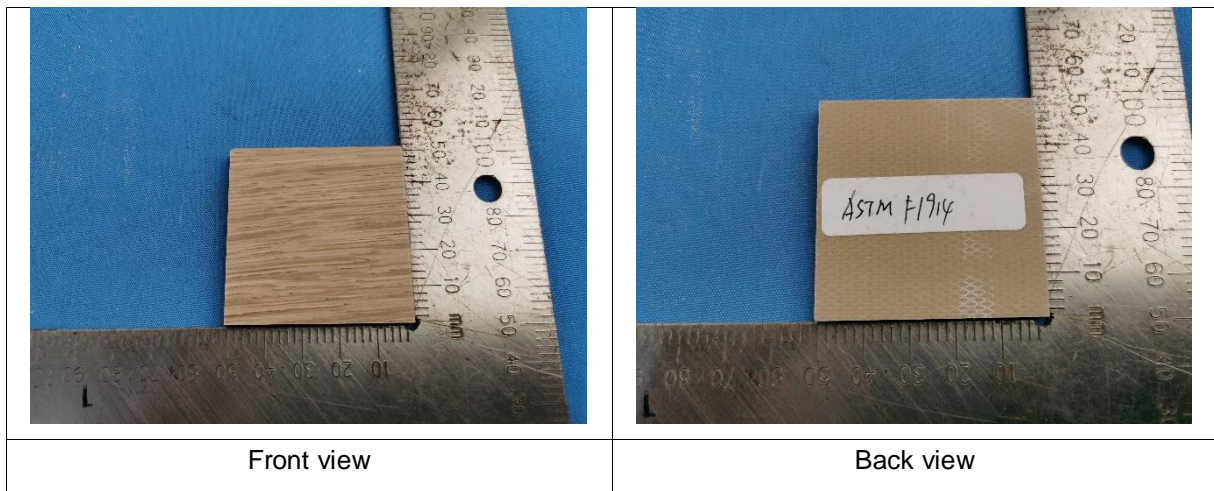
3. Standard Test Methods for Short-Term Indentation and Residual Indentation of Resilient Floor Covering (ASTM F1914-18)

Summary of Results:

No.	Test Item	Test Method	Result	Conclusion
1	Residual Indentation	ASTM F3261-20 Section 8.1 & ASTM F1914-18	See Result	Pass
2	Surface Integrity Test	ASTM F3261-20 Section 8.2 & ASTM F1914-18	See Result	Pass

Note: Pass : Meet the requirements;
 Fail : Does not meet the requirements;
 / : Not Apply to the judgment.

Original Sample Photo(s):



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1. Test Item: Residual Indentation

Test Method: ASTM F3261-20 Section 8.1 & ASTM F1914-18

Test Condition:

Specimen: 50mm×50mm×5mm, 3pcs

The diameter of indenter: 6.35mm

Total load: 34kg

Maintain time: 15min

Recovery time: 60min

Lab Environmental Condition: 23±2°C, 50±5%RH

Test Result:

Test Item	Test Result	Requirement in ASTM F3261-20 Table 2	Conclusion
Residual Indentation (mm)	0.02	≤0.18	Pass

Original Data:

Test Item	Test Result			
	Individual value			Average value
Residual Indentation (mm)	0.02	0.01	0.02	0.02

2. Test Item: Surface Integrity Test

Test Method: ASTM F3261-20 Section 8.2 & ASTM F1914-18

Test Condition:

Specimen: 50mm×50mm×5mm, 3pcs

The diameter of indenter: 4.5mm

Total load: 63.5kg

Maintain time: 10min

Lab Environmental Condition: 23±2°C, 50±5%RH

Test Result:

Test Item	Test Result	Requirement in ASTM F3261-20 Table 2	Conclusion
Surface Integrity Test	No puncture through wear layer/décor into rigid core.	No puncture through wear layer/décor into rigid core.	Pass

Note: The above testing was performed by SGS others internal laboratory.



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Photo Appendix

Photo relative to received sample(s):



Received Sample 1



Received Sample 2 (front view)



Received Sample 2 (back view)

Test Part Description:

SN ID.	Sample No.	Description
SN1	1	Natural color/white plastic floor

Result/Rating/Record Key(s)

- I. Result/Rating Keys: P = Pass = Meet; F = Fail = Not Meet; N/A = Not applicable = Not suitable; NR = NC = Test not conduct/requested per client request; TT = Test terminated due to the earlier failure of last test.
- II. Record Keys: "C:" means Claimed parameter; "A:" means Actual recorded from test; "D:" means Data for reference only.

General Report Note(s)

- A. N.B. Only applicable clauses were shown.
- B. (1) 1mg/kg = 0.0001% (2) MDL = Method Detection Limit (3) ND = Not Detected (< MDL)



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(4) “-” = Not Regulated

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