

## TEST REPORT

No. : SC111121249

Date : Nov. 21, 2011

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SS FLOOR CO., LTD.

TANGQIAO, YAOGUAN, WUJIN, CHANGZHOU, JIANGSU

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

Sample Name : PVC Floor  
Sample No. : SC111121249  
Test Required : Please see the next page(s)  
Test Method : Please see the next page(s)  
Product specification : 45.72cm\*45.72cm\*0.3cm  
Manufacturer : SS FLOOR CO., LTD.  
Date of Receipt : Nov. 01, 2011  
Test Period : Nov. 01, 2011 to Nov. 21, 2011  
Test Result(s) : For further details, please refer to the following page(s)

\*\*\*\*\* To be continued\*\*\*\*\*

Signed for SGS-CSTC Standards  
Technical Services (Shanghai) Co., Ltd

*Sally Xie*

Sally Xie  
Authorized signatory

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## 1. Determination of migration of heavy metals

Test Part Description: yellow solid part

Test Method: With reference to EN 71 Part 3:1994 + A1:2000 + AC:2002 Migration of Certain Elements, analysis was performed by ICP-OES.

Test Item(s)	Limit.	Unit	MDL	result
Soluble Lead (Pb)	90	mg/kg	5	ND
Soluble Antimony (Sb)	60	mg/kg	5	ND
Soluble Arsenic (As)	25	mg/kg	5	ND
Soluble Barium (Ba)	1,000	mg/kg	10	ND
Soluble Cadmium (Cd)	75	mg/kg	5	ND
Soluble Chromium (Cr)	60	mg/kg	5	ND
Soluble Mercury (Hg)	60	mg/kg	5	ND
Soluble Selenium (Se)	500	mg/kg	10	ND

Notes: (1) Results shown are of the adjusted analytical results.

(2) 1 mg/kg = 1 ppm = 0.0001%

(3) MDL = Method Detection Limit

(4) ND = Not Detected (< MDL)

(5) "-" = Not Regulated

Conclusion: When tested as specified, the specified material of the submitted sample comply with the stated requirements of the European Standard EN 71 Part3:1994 + A1:2000 + AC:2002.

\*\*\*\*\* To be continued\*\*\*\*\*

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### 2. Formaldehyde emission

Sample description: black pvc floor

Test Method: With reference to EN 717-1:2004, analysis was performed by UV-Vis.

Test Item(s)	Unit	MDL	Result
Formaldehyde Emission (In air)	mg/m <sup>3</sup>	0.080	ND

Notes: (1) mg/m<sup>3</sup> = milligram per cubic meter

(2) Reference Limit: EN13986:2004(E)

Formaldehyde class E1: ≤0.124 mg/m<sup>3</sup> air

Formaldehyde class E2: >0.124 mg/m<sup>3</sup> air

(3) MDL = Method Detection Limit

(4) ND = Not Detected (< MDL)

### 3. Peel strength, Shear force

Test item	Test method	Test condition	Result	
			X direction	Y direction
Peel strength	EN 431: 1994	Specimen width: 50mm Separation speed: 100mm/min	X direction	95N/50mm
			Y direction	95N/50mm
Shear force	EN 432: 1994	Shear area: 40×50mm Separation speed: 100mm/min	X direction	14680N
			Y direction	14948N

Note: All test specimens were cut from the sample.

\*\*\*\*\* To be continued\*\*\*\*\*

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Test No.	Test Property	Test Method	Test principles/requirements	Rating/Result
4	Effect of a castor chair	EN 425:2002	<p>Inspect the surface of the castors, and if necessary, clean them with a cotton pad impregnated with denatured ethanol, and dry. Pre-clean the test piece with a vacuum cleaner. Fix the base for the test piece on the circular plate, and lower the triangular platform to allow the castors to come into contact with the test piece. Preset the counter for 25000 revolutions of the plate and set the apparatus in motion with the suction nozzle being operated continuously. At the end of the test, examine the test piece for appearance change from a distance of approximately 800 mm at an approximate angle of 45°. And from all directions by slowly rotating the viewing table. There should not be any damage caused by detachment of layers, opening joints, or crazing. Ignore any flattening or change in appearance, e.g. change in gloss.</p>	Pass

\*\*\*\*\* To be continued\*\*\*\*\*

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Test No.	Test Property	Test Method	Test principles/requirements	Rating/ Result
5	Determination of the side length, squareness and straightness of tiles	EN 427:1994	Condition the test pieces and mandrels at a temperature of (23±2) °C and relative humidity (50±5) % for a minimum of 24 h. Side length should be ≤0.13% of nominal length, up to 0.5mm maximum. Squareness and straightness for side length:  <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">                     ≤400mm &gt;400mm &gt;400mm (intended for welding)                 </div> <div style="width: 45%;">                     deviation ≤0.25mm ≤ 0.35mm ≤0.50mm                 </div> </div>	/ No claim See Result1
6	Determination of overall thickness	EN 428:1993	Condition the test pieces and mandrels at a temperature of (23±2) °C and relative humidity (50±5) % for a minimum of 24 h. For overall thickness: Average value should be nominal value $\begin{matrix} +0.13 \\ -0.10 \end{matrix}$ mm Individual results should be average value ±0.15mm	/ No claim Average: 3.08mm Max: 3.18mm Min: 3.04mm
7	Determination of the thickness of layers	EN 429:1993	Condition the test pieces and mandrels at a temperature of (23±2) °C and relative humidity (50±5) % for a minimum of 24 h. Calculate the mean value of thickness for each layer from the number of measurements taken, and express these results to the nearest 0.01mm.	/ No claim Thickness of layers 0.33mm

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Test No.	Test Property	Test Method	Test principles/requirements	Rating/ Result
8	Determination of mass per unit area	EN 430:1994	Total mass per unit area (average) should be nominal value $^{+0.13\%}_{-0.10\%}$ g/m <sup>2</sup> .	/ No claim Mass per unit area:5894.7 g/m <sup>2</sup>
9	Determination of residual indentation after static loading	EN 433:1994	Mark the place of measurement and measure the initial thickness of the test piece, t <sub>0</sub> , at its centre to 0.01 mm. Place the test piece on the platform. Place the annular weight on the test piece. Smoothly apply the appropriate total force 500N, and start the stopwatch within 2s. Record the depth of indentation after 150 min to 0.01mm, and remove the force and the test piece from the platform. After a further 150 min, measure the final thickness of the test piece, t <sub>1</sub> , at the same position, using the appropriate apparatus. The residual indentation should be ≤0.1mm	Pass Residual indentation: 0.07mm
10	Determination of dimensional stability and curling after exposure to heat	EN 434:1994	Store the test pieces for 360 <sup>+15</sup> min in the oven, which had previously been stabilized at (80±2) °C. Remove the metal plates bearing the test pieces from the oven. Allow these to cool and recondition at a temperature of (23±2) °C and relative humidity (50±5) % for a further 24 h, unless otherwise specified for the product. Variations of length percentage should be ≤ 0.25% The curling after exposure to heat should be ≤ 2 mm	Pass Variations of length percentage 0.06% Curling: 0.14mm

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Test No.	Test Property	Test Method	Test principles/requirements	Rating/ Result
11	Determination of flexibility	EN 435:1994	<p>Condition the test pieces and mandrels at a temperature of (30±2) °C and relative humidity (50±5) % for a minimum of 24 h.</p> <p>The test piece is bent through 180° within 5s around a mandrel under specified conditions.</p> <p>Test using a 20 mm mandrel. For product which show sings of cracking, perform a further test using a 40 mm mandrel. If results show no further cracking, record the use of 40 mm mandrel.</p> <p>Record minimum diameter of the used mandrel.</p>	/ Diameter of mandrel: 10mm
12	Determination of density	EN 436:1994	<p>Condition the test pieces at a temperature of (23±2) °C and relative humidity of (50±5) % for a minimum of 24h.</p> <p>Weigh the test piece with the thin wire suspended around it. Record the mass, m<sub>1</sub>.</p> <p>Immerse the test pieces, still suspended by the wire, in the distilled water contained in the beaker on the pan straddle or other stationary support.</p> <p>Remove adhering air bubbles with a fine wire. Mark the level of immersion and record the mass of the immersed test piece, m<sub>2</sub>.</p> <p>Calculate the density, ρ, in kilograms per cubic meter, of the test piece from the following equation:  <math display="block">\rho = m_1 \rho_{H_2O} / (m_1 - m_2)</math>                     ρ<sub>H<sub>2</sub>O</sub> is the density of water, at that temperature.</p>	/ ρ=2103kg/m <sup>3</sup>

\*\*\*\*\* To be continued\*\*\*\*\*

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Test No.	Test Property	Test Method	Test principles/requirements	Rating/ Result
13	Color fastness to light	EN ISO 105 B02:1999+A1:2002; Use Xenon-Arc Lamp	Comparison upto blue wool reference 6	Grade (Blue wool Std): 6

Result 1: Results of side length, squareness and straightness of tiles (mm)

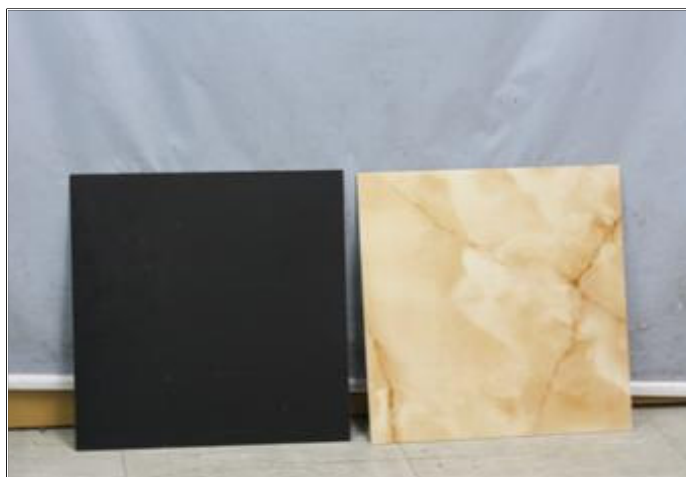
Side length

Length/Width	No.1	No.2	No.3	No.4	No.5
Point1	457.01	457.18	457.06	457.14	457.25
Point2	457.13	457.13	457.19	457.08	457.20
Point3	457.08	457.10	457.13	457.12	457.13
Average	457.13				

Squareness and straightness

	No.1	No.2	No.3	No.4	No.5	Average
Squareness(max)	0.10	0.08	0.08	0.06	0.05	0.07
Straightness(max)	0.05	0.04	0.05	0.07	0.08	0.06

Sample photo:



\*\*\*\*\* End of report \*\*\*\*\*

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