

**Test Report**

No.: SHHL1904015288BM-01


Date: APR. 16, 2025

Page: 1 of 6

THE TEST REPORT IS TO SUPERSEDE THE TEST REPORT NO.: SHHL1904015288BM, DATE: APR. 12, 2025, ORIGINAL REPORT SHALL BE INVALID.

Sample Description : FLOOR LAMINATION FILM  
 SGS Ref. No. : NBHL1904004760SD  
 \*\*\*\*\*  
 Sample Receiving Date : APR. 03, 2025  
 Testing Period : APR. 03, 2025 TO APR. 16, 2025  
 Testing Location : 3RD BUILDING, LANE 3999, XIUPU ROAD, PUDONG  
 NEW AREA, SHANGHAI  
 Test Performed : SELECTED TEST(S) AS REQUESTED BY APPLICANT  
 Test Requested : SLIP RESISTANCE (DIN 51130:2014-02)  
 Test Result(s) : SLIP ANGLE( $\alpha$ :11.3° ) RATING: R10  
 FOR FURTHER DETAILS, PLEASE REFER TO THE  
 FOLLOWING PAGE(S)  
 Conclusion : THE SUBMITTED SAMPLE MET THE TEST  
 REQUIREMENT.

Signed for and on behalf of  
 SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.



Yomoro Gu  
 Authorized Signatory



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## Test Report


No.: SHHL1904015288BM-01

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### Test Conducted:

#### Slip resistance (DIN 51130:2014-02)

Test Property	Test procedure/requirements	Rating/Result
<p>SLIP RESISTANCE</p>	<p>Prepare the test sample as the size of 100cm x 50cm, cleaning the surface before test.</p> <p>The temperature of the lab, shoes, lubricant and the decorative panels should be kept at <math>(23 \pm 5) ^\circ\text{C}</math></p> <p>Before test, apply a layer of lubricant on the surface of the decorative panels evenly with a brush, the density should be <math>(200 \pm 20) \text{ ml}</math> every square meter, the outer shoes should also be covered with lubricant.</p> <div style="text-align: center;">  <p><b>2025</b></p> <p><b>Illustration 1—bottom of the shoes for inspect</b></p> </div> <p>Inspector should maintain upright posture and walk forward and backward on the decorative panels while watch below, stride width should reach half the length of the shoes. Start from the horizontality; Increase the angle of inclination of the panels at a angular velocity of about one degree every second. Inspector will linger at critical areas many times to determine the reliable walk limit inclination angle he or she can reached, repeat the above procedure three times and start from the horizontality every time Before the second and the third time, reapply the lubricant on the surface as above with the brush</p> <p><b>1.Calibration of the test person</b></p> <p>1. Each inspectors should walk on the every standard flooring for three times, then calculate the average angle respectively :</p> <p>① <math>\alpha_{\text{KST-Ij}}</math> ② <math>\alpha_{\text{KST-IIj}}</math> ③ <math>\alpha_{\text{KST-IIIj}}</math></p>	<p>Pass</p> <p><math>\alpha: 11.3^\circ</math></p> <p>Rating: R10</p>



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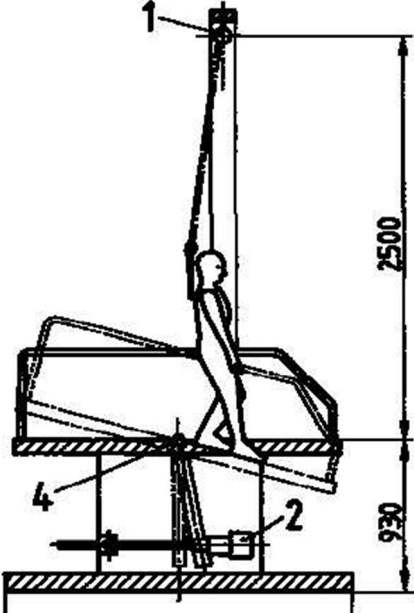
Test Property	Test procedure/requirements	Rating/Result																									
	<p>2 The difference value <math>w_{ij}</math> will be calculated: <math>\Delta\alpha_{ST-Ij}</math>, <math>\Delta\alpha_{ST-IIj}</math>, <math>\Delta\alpha_{ST-III Aj}</math>. If the difference value is out of range of CrD95 , the inspector should be eliminated See below table 1</p> <p style="text-align: center;"><b>Table 1</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="3" style="text-align: center;">Standard flooring</th> </tr> <tr> <th style="width: 30%;">I</th> <th style="width: 35%;"><math>\alpha_{S,I}</math></th> <th style="width: 35%;">CrD95</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">St-I</td> <td style="text-align: center;">8.7°</td> <td style="text-align: center;">3.0°</td> </tr> <tr> <td style="text-align: center;">St-II</td> <td style="text-align: center;">17.3°</td> <td style="text-align: center;">3.0°</td> </tr> <tr> <td style="text-align: center;">St-III A</td> <td style="text-align: center;">27.3°</td> <td style="text-align: center;">3.0°</td> </tr> </tbody> </table> <p><b>2 . Test for sample</b></p> <p>Two qualified inspector selected as above walk on the sample panels for three times respectively,, then calculate the mean value <math>\alpha_{0,1}</math> and <math>\alpha_{0,2}</math>., then calculate the corrected value <math>D_j</math> according to below table 2..</p> <p style="text-align: center;"><b>Table 2</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="width: 40%;">Case</th> <th style="width: 60%;">Corrected value <math>D_j</math></th> </tr> </thead> <tbody> <tr> <td><math>\alpha_{0,1} &lt; \alpha_{K,St-I,1}</math></td> <td><math>D_1 = \Delta\alpha_{St-I,1} \cdot \frac{1}{\sqrt{2}}</math></td> </tr> <tr> <td><math>\alpha_{K,St-I,1} \leq \alpha_{0,1} &lt; \alpha_{K,St-II,1}</math></td> <td><math>D_1 = \left[ \Delta\alpha_{St-I,1} + (\Delta\alpha_{St-II,1} - \Delta\alpha_{St-I,1}) \cdot \frac{\alpha_{0,1} - \alpha_{K,St-I,1}}{\alpha_{K,St-II,1} - \alpha_{K,St-I,1}} \right] \cdot \frac{1}{\sqrt{2}}</math></td> </tr> <tr> <td><math>\alpha_{K,St-II,1} \leq \alpha_{0,1} &lt; \alpha_{K,St-III A,1}</math></td> <td><math>D_1 = \left[ \Delta\alpha_{St-II,1} + (\Delta\alpha_{St-III A,1} - \Delta\alpha_{St-II,1}) \cdot \frac{\alpha_{0,1} - \alpha_{K,St-II,1}}{\alpha_{K,St-III A,1} - \alpha_{K,St-II,1}} \right] \cdot \frac{1}{\sqrt{2}}</math></td> </tr> <tr> <td><math>\alpha_{K,St-III A,1} \leq \alpha_{0,1}</math></td> <td><math>D_1 = \Delta\alpha_{St-III A,1} \cdot \frac{1}{\sqrt{2}}</math></td> </tr> </tbody> </table> <p>The result for inspector j : <math>a_j = \alpha_{0,j} + D_j</math></p> <p>The final result for the two inspectors: <math>\alpha = (\alpha_1 + \alpha_2) / 2</math> ,on this basis and according to table 3,give a final rating of slip resistance</p>	Standard flooring			I	$\alpha_{S,I}$	CrD95	St-I	8.7°	3.0°	St-II	17.3°	3.0°	St-III A	27.3°	3.0°	Case	Corrected value $D_j$	$\alpha_{0,1} < \alpha_{K,St-I,1}$	$D_1 = \Delta\alpha_{St-I,1} \cdot \frac{1}{\sqrt{2}}$	$\alpha_{K,St-I,1} \leq \alpha_{0,1} < \alpha_{K,St-II,1}$	$D_1 = \left[ \Delta\alpha_{St-I,1} + (\Delta\alpha_{St-II,1} - \Delta\alpha_{St-I,1}) \cdot \frac{\alpha_{0,1} - \alpha_{K,St-I,1}}{\alpha_{K,St-II,1} - \alpha_{K,St-I,1}} \right] \cdot \frac{1}{\sqrt{2}}$	$\alpha_{K,St-II,1} \leq \alpha_{0,1} < \alpha_{K,St-III A,1}$	$D_1 = \left[ \Delta\alpha_{St-II,1} + (\Delta\alpha_{St-III A,1} - \Delta\alpha_{St-II,1}) \cdot \frac{\alpha_{0,1} - \alpha_{K,St-II,1}}{\alpha_{K,St-III A,1} - \alpha_{K,St-II,1}} \right] \cdot \frac{1}{\sqrt{2}}$	$\alpha_{K,St-III A,1} \leq \alpha_{0,1}$	$D_1 = \Delta\alpha_{St-III A,1} \cdot \frac{1}{\sqrt{2}}$	
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$\alpha_{K,St-III A,1} \leq \alpha_{0,1}$	$D_1 = \Delta\alpha_{St-III A,1} \cdot \frac{1}{\sqrt{2}}$																										



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Test Property	Test procedure/requirements	Rating/Result												
	<p><b>Table3 –The relation between the corrected overall angle and the rating of the slip resistance</b></p> <table border="1" data-bbox="347 633 1248 920"> <thead> <tr> <th><math>\alpha</math></th> <th>Rating</th> </tr> </thead> <tbody> <tr> <td><math>6^\circ &lt; \alpha \leq 10^\circ</math></td> <td>R 9</td> </tr> <tr> <td><math>10^\circ &lt; \alpha \leq 19^\circ</math></td> <td>R 10</td> </tr> <tr> <td><math>19^\circ &lt; \alpha \leq 27^\circ</math></td> <td>R 11</td> </tr> <tr> <td><math>27^\circ &lt; \alpha \leq 35^\circ</math></td> <td>R 12</td> </tr> <tr> <td><math>\alpha &gt; 35^\circ</math></td> <td>R 13</td> </tr> </tbody> </table> <p><b>Illustration 2 inspect device with safety mechanism ( inclined plane )</b></p>  <p><b>Client's requirement: <math>\geq R9</math></b></p>	$\alpha$	Rating	$6^\circ < \alpha \leq 10^\circ$	R 9	$10^\circ < \alpha \leq 19^\circ$	R 10	$19^\circ < \alpha \leq 27^\circ$	R 11	$27^\circ < \alpha \leq 35^\circ$	R 12	$\alpha > 35^\circ$	R 13	
$\alpha$	Rating													
$6^\circ < \alpha \leq 10^\circ$	R 9													
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$27^\circ < \alpha \leq 35^\circ$	R 12													
$\alpha > 35^\circ$	R 13													



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## Test Report

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### Sample Photo:

Test sample (test surface)



Standard flooring



Test shoes



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\*\*\*End of Report\*\*\*



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