



Test Report

No.: SHHL1906032418BM

Date: JUN. 27, 2019

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ZHEJIANG GANGLONG NEW MATERIAL CO., LTD.

MAQIAO WARP KNITTING SCIENCE & TECHNOLOGY INDUSTRIAL ZONE, HAINING, ZHEJIANG

Sample Description : PRINT FLOOR
SGS Ref. No. : NBHL1906009986SD
Item No. : B-01
Manufacturer : GLP

Sample Receiving Date : JUN. 19, 2019
Testing Period : JUN. 19, 2019 TO JUN. 27, 2019
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) : FOR FURTHER DETAILS, PLEASE REFER TO THE
FOLLOWING PAGE(S)
Conclusion : THE TEST DATA WERE PROVIDED TO CLIENT FOR
THEIR OWN ANALYSIS.

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



Yomoro Gu
Authorized Signatory



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Test Report


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Test Conducted:

Slip resistance (DIN 51130:2014-02)

Test Property	Test procedure/requirements	Rating/Result
SLIP RESISTANCE	<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 (23 ± 5) °C</p> <p>Before test, apply a layer of lubricant on the surface of the decorative panels evenly with a brush, the density should be (200 ± 20) ml every square meter, the outer bottom of the shoes should also be covered with lubricant.</p>  <p>Illustration 1—bottom of the shoes for inspect</p> <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>1. Calibration of the test person</p> <p>1. Each inspectors should walk on the every standard flooring for three times, then calculate the average angle respectively :</p> <p>① α_{KST-Ij} ② $\alpha_{KST-IIj}$ ③ $\alpha_{KST-IIIj}$</p> <p>2. The difference value will be calculated: $\Delta\alpha_{ST-Ij}$, $\Delta\alpha_{ST-IIj}$, $\Delta\alpha_{ST-IIIj}$. If the difference value is out of range of CrD95 , the inspector should be eliminated</p>	<p>α: 20.9°</p> <p>Rating: R 11</p>

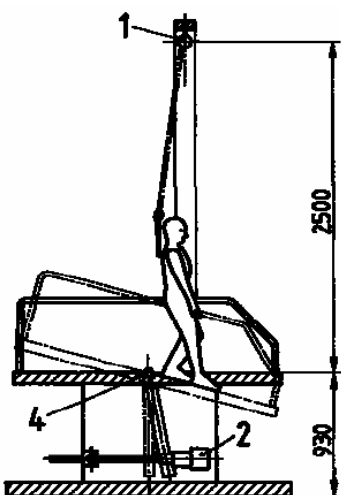


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Test Property	Test procedure/requirements	Rating/ Result																														
	<p>See below table 1</p> <table><tr><th colspan="3">Table 1</th></tr><tr><th colspan="3">Standard flooring</th></tr><tr><th>i</th><th>$\alpha_{S,i}$</th><th>CrD95</th></tr><tr><td>St-I</td><td>8.7°</td><td>3.0°</td></tr><tr><td>St-II</td><td>17.3°</td><td>3.0°</td></tr><tr><td>St-III A</td><td>27.3°</td><td>3.0°</td></tr></table> <p>2 . Test for sample</p> <p>Two qualified inspector selected as above walk on the sample panels for three times respectively, then calculate the mean value $\alpha_{0,1}$ and $\alpha_{0,2}$., then calculate the corrected value D_j according to below table 2..</p> <table><tr><th colspan="2">Table 2</th></tr><tr><th>Case</th><th>Corrected value D_j</th></tr><tr><td>$\alpha_{0,1} < \alpha_{K,St-I,1}$</td><td>$D_1 = \Delta\alpha_{St-I,1} \cdot \frac{1}{\sqrt{2}}$</td></tr><tr><td>$\alpha_{K,St-I,1} \leq \alpha_{0,1} < \alpha_{K,St-II,1}$</td><td>$D_1 = \left[\Delta\alpha_{St-I,1} + (\Delta\alpha_{St-II,1} - \Delta\alpha_{St-I,1}) \cdot \frac{\alpha_{0,1} - \alpha_{K,St-I,1}}{\alpha_{K,St-II,1} - \alpha_{K,St-I,1}} \right] \cdot \frac{1}{\sqrt{2}}$</td></tr><tr><td>$\alpha_{K,St-II,1} \leq \alpha_{0,1} < \alpha_{K,St-III A,1}$</td><td>$D_1 = \left[\Delta\alpha_{St-II,1} + (\Delta\alpha_{St-III A,1} - \Delta\alpha_{St-II,1}) \cdot \frac{\alpha_{0,1} - \alpha_{K,St-II,1}}{\alpha_{K,St-III A,1} - \alpha_{K,St-II,1}} \right] \cdot \frac{1}{\sqrt{2}}$</td></tr><tr><td>$\alpha_{K,St-III A,1} \leq \alpha_{0,1}$</td><td>$D_1 = \Delta\alpha_{St-III A,1} \cdot \frac{1}{\sqrt{2}}$</td></tr></table> <p>The result for inspector j : $\alpha_j = \alpha_{0,j} + D_j$</p> <p>The final result for the two inspectors: $\alpha = (\alpha_1 + \alpha_2) / 2$, on this basis and according to table 3, give a final rating of slip resistance.</p>	Table 1			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°	Table 2		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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Test Property	Test procedure/requirements	Rating/ Result												
	<p>Table3 –The relation between the corrected overall angle and the rating of the slip resistance</p> <table><tr><th>α</th><th>Rating</th></tr><tr><td>$6^{\circ}<\alpha\leq10^{\circ}$</td><td>R 9</td></tr><tr><td>$10^{\circ}<\alpha\leq19^{\circ}$</td><td>R 10</td></tr><tr><td>$19^{\circ}<\alpha\leq27^{\circ}$</td><td>R 11</td></tr><tr><td>$27^{\circ}<\alpha\leq35^{\circ}$</td><td>R 12</td></tr><tr><td>$\alpha>35^{\circ}$</td><td>R 13</td></tr></table> <p>Illustration 2 inspect device with safety mechanism (inclined plane)</p> 	α	Rating	$6^{\circ}<\alpha\leq10^{\circ}$	R 9	$10^{\circ}<\alpha\leq19^{\circ}$	R 10	$19^{\circ}<\alpha\leq27^{\circ}$	R 11	$27^{\circ}<\alpha\leq35^{\circ}$	R 12	$\alpha>35^{\circ}$	R 13	
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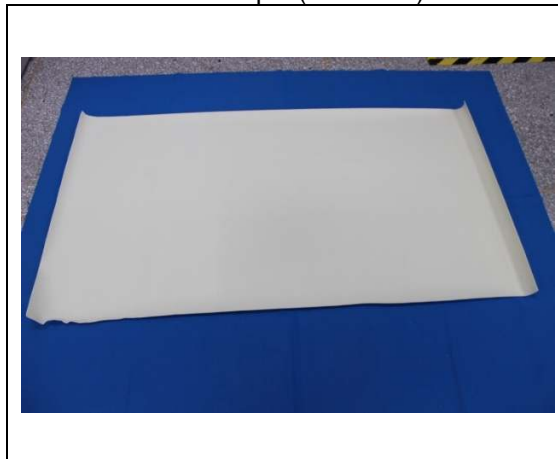
Sample Photo:

Test sample (front side & test surface)



Standard floor

Test sample (back side)



Test shoe



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End of Report



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