Test Report

No.: SHHL1906032867BM Date: JUL. 02, 2019 Page: 1 of 5

ZHANGJIAGANG REFINE UNION IMPORT AND EXPORT CO., LTD
ROOM 708A, HUAJIAN BUILDING, WEST SHAZHOU ROAD, ZHANGJIAGANG CITY, JIANGSU PROVINCE, CHINA

Sample Description	: SPC FLOORING
	**********
Sample Receiving Date	: JUN. 24, 2019
Testing Period	: JUN. 24, 2019 TO JUL. 02, 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

Test Conducted:

Slip resistance (DIN 51130:2014-02)

Test Property	Test procedure/requirements	Rating/ Result
SLIP RESISTANCE	Prepare the test sample as the size of 100cm x 50cm, cleaning the surface before test. The temperature of the lab, shoes, lubricant and the decorative panels should be kept at (23 ± 5) ℃ 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.  **Illustration 1–bottom of the shoes for inspect** 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. **1.Calibration of the test person** 1. Each inspectors should walk on the every standard flooring for three times, then calculate the average angle respectively: ① α_{KST-I} ② α_{KST-II} ③ $\alpha_{KST-III}$ 2. The difference value will be calculated: $\Delta\alpha_{ST-I}$, $\Delta\alpha_{ST-II}$, $\Delta\alpha_{ST-IIA}$, If the difference value is out of range of CrD95, the inspector should be eliminated	α: 11.6° Rating: R 10

Test Property	Test procedure/requirements	Rating/ Result

See below table 1

Table 1

Standard flooring		
i	αS,i	CrD95
St-I	8.7°	3.0°
St-II	17.3°	3.0°
St-IIIA	27.3°	3.0°

2. Test for sample

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 Dj according to below table 2..

Table 2

Case	Corrected value Dj
$\alpha_{0,1} < \alpha_{K,St-I,1}$	$D_1 = \Delta\alpha_{St-I,1} \frac{1}{\sqrt{2}}$
$\alpha_{K,St-I,1} \le \alpha_{0,1} < \alpha_{K,St-II,1}$	$D_1 = \left[\Delta\alpha_{St-I,1} + (\Delta\alpha_{St-II,1} - \Delta\alpha_{St-I,1}) \frac{\alpha_{0,1} - \alpha_{K,St-I,1}}{\alpha_{K,St-II,1} - \alpha_{K,St-I,1}}\right] \frac{1}{\sqrt{2}}$
$\alpha_{K,St-II,1} \le \alpha_{0,1} < \alpha_{K,St-IIIA,1}$	$D_1 = \left[\Delta\alpha_{St-II,1} + (\Delta\alpha_{St-IIIA,1} - \Delta\alpha_{St-II,1}) \frac{\alpha_{0,1} - \alpha_{K,St-II,1}}{\alpha_{K,St-IIIA,1} - \alpha_{K,St-II,1}}\right] \frac{1}{\sqrt{2}}$
$\alpha_{K,St-IIIA,1} \le \alpha_{0,1}$	$D_1 = \Delta\alpha_{St-IIIA,1} \frac{1}{\sqrt{2}}$

The result for inspector j: αj=α0,j+Dj

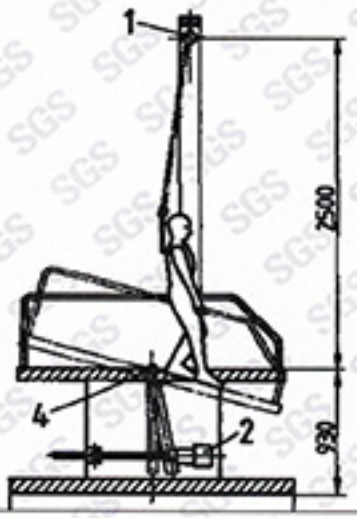
The final result for the two inspectors: α= (α1+α2) /2,on this basis and according to table 3,give a final rating of slip resistance.

Test Property	Test procedure/requirements	Rating/ Result

Table3 –The relation between the corrected overall angle and the rating of the slip resistance

α	Rating
6°<α≤10°	R 9
10°<α≤19°	R 10
19°<α≤27°	R 11
27°<α≤35°	R 12
α>35°	R 13

Illustration 2 inspect device with safety mechanism (inclined plane)

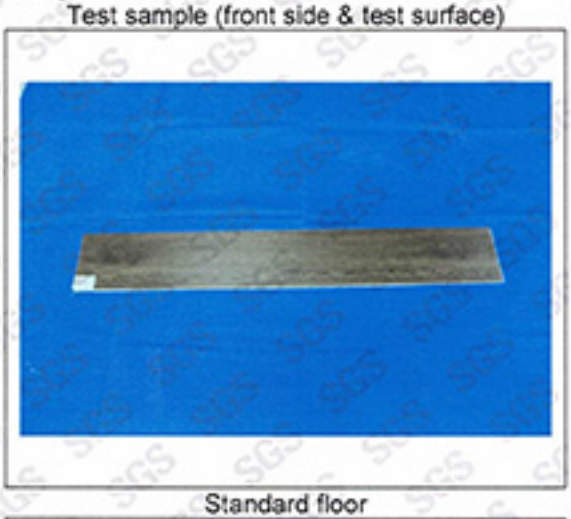


Remark:

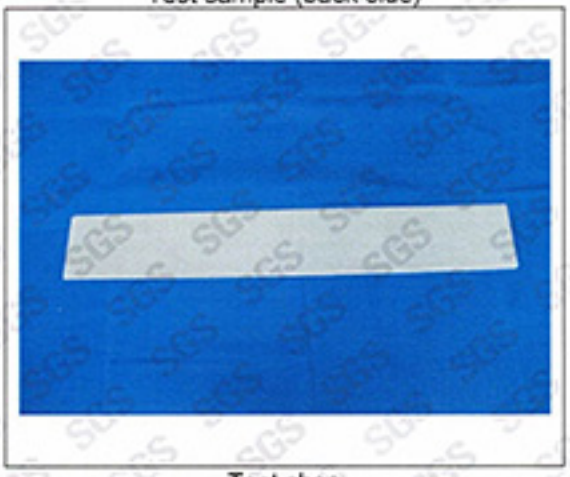
1. Since the data and / or information above division line of front page is provided by the applicant, the relevant results or conclusions of this report are only made for these data and / or information, SGS is not responsible for the authenticity, integrity and results of the data and information and / or the validity of the conclusion. Testing results only apply to the sample as received.
2. The declaration of conformity is only based on the actual value of laboratory activity, measurement uncertainty of the results not take into account.

Sample Photo:

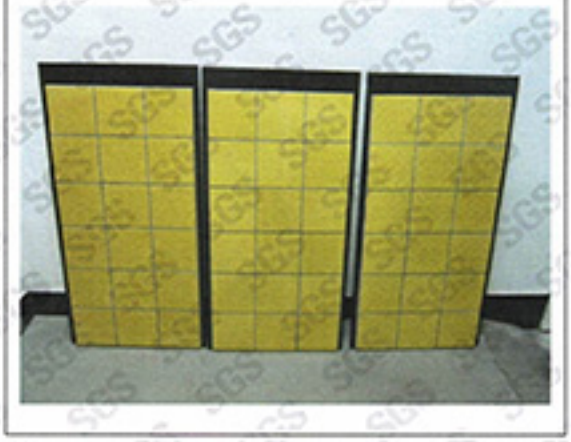
Test sample (front side & test surface)



Test sample (back side)



Standard floor



Test shoe

SGS authenticate the photo on original report only

End of Report

SHHL 148041

4F Building, No.889, Yishan Road, Xuhui District Shanghai, China 200233 t: (86) 400 960 9661 f: (86-21) 6115 6899 www.sgsgroup.com.cn

中国·上海·徐汇区宜山路889号4号楼 邮编: 200233 t: (86) 400 960 9661 f: (86-21) 6115 6899 e: sgs.china@sgs.com