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Dresden, 04/06/2019
MPET

Test Report Order No. 2708003/138

Client: Changzhou Huaren Decorative Materials Co., Ltd.
No. 110
Changhong Road, Wujin District
Changzhou City, Jiangsu Province
China

Date of order: 24/04/2019

Order: Carrying out of tests of SPC floorings
according to EN 14041:2008 for CE-labelling

Contractor: EPH – Laboratory Surface Testing

Engineer in charge: Dipl.-Ing. (FH) M. Peter



Dr.-Ing. Rico Emmmler
Head of Laboratory Surface Testing

The Test Report contains 5 pages and 1 annex with 24 pages. Any duplication, even in part, requires written permission of EPH. These test results are exclusively related to the tested material.

1 Task

The Notified Body (No. 0766) Entwicklungs- und Prüflabor Holztechnologie GmbH (EPH) was instructed by Changzhou Huaren Decorative Materials Co., Ltd. in Jiangsu Province / China to carry out selected tests of SPC Floorings according to EN 14041:2008 for CE-labelling.

2 Material

For the tests, the client has sent following SPC floorings
(Entrance at the EPH laboratory on 24/04/2019):

Variant 1: SPC Flooring	"Vinyl Tile Flooring"
Construction:	4 layers (UV coating +wearing layer+colour film+based material)
Structure:	Antique wood texture (BP)
Dimensions:	1220 mm x 181 mm x 3.2 mm
Variant 2: SPC Flooring	"Vinyl Tile Flooring"
Construction:	5 layers (UV coating+wearing layer+colour film+based material + underlayer)
Structure:	Antique wood texture (BP)
Dimensions:	1220 mm x 181 mm x 7.0 mm

Furthermore, there was sent a manufacture information report containing an overview about the collection.

3 Test performance

3.1 Reaction to fire

The test procedures were carried out at the Entwicklungs- und Prüflabor Holztechnologie GmbH (EPH) in Dresden in accordance with the following reaction to fire tests for floor coverings issued in EN 13501-1:2010:

DIN EN ISO 11925-2: Reaction to fire test - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test;

DIN EN ISO 9239-1: Reaction to fire tests for floorings - Part 1: Determination of the burning behaviour using a radiant heat source.

For the flooring collection, described in article 2, specimens with maximum and minimum nominal thickness were tested with reduced number of specimens (1 x lengthwise (L); 1 x crosswise (Q)) for determination of the relevant nominal thickness due to the worst case performance. Subsequently, the relevant variant was tested completely.

For testing, the products were mounted mechanically at 8 mm fibre cement board according to loose laying at mineral subfloor in end use application, i.e. the results are valid for products used as horizontal floor covering installed on a mineral subfloor according to EN 13238:2010, using adhesives or not.

The final classification for the reaction to fire performance according to EN 13501-1:2010 was determined due to the worst case variant in terms of the results of the both tests.

The tests were carried out on: 24/05/2019.

3.2 Determination of the sliding properties

For the test, a mass with a defined shape and sliders of rubber + leather (1 rubber, 2 leather) according to EN 13893:2003 (dry conditions) were used. The slider acts with a defined force on the sample surface and is drawn over the surface with a constant velocity. The force necessary to move the mass is measured along the whole distance. The sliding coefficient is the ratio of that force to the force acting vertically.

The assessment of the sliding coefficient μ estimated according to EN 13893:2003 was done according to EN 14041:2008 (harmonised standard for resilient, textile and laminate floor coverings).

The tests were carried out on: 08/05/2019.

4 Results

4.1 Reaction to fire performance according to EN 13501-1:2010

The tested products attained the following results:

Variant	Testing procedure according to EN 13501-1:2010			Fire class according to EN 13501-1:2010
	Single-flame source test according to DIN EN ISO 11925-2:2011	Burning behaviour using a radiant heat source according to DIN EN ISO 9239-1:2010		
	Requirement max. extent of flame ≤ 150 mm	Critical heat flow in kW/m²	Integral smoke production in % x min	
1+2	fulfilled	11.40	569.0	B _{fl} -s1

Critical heat flow ≥ 3.0 kW/m² \Rightarrow Fire class D_{fl}

Critical heat flow ≥ 4.5 kW/m² \Rightarrow Fire class C_{fl}

Critical heat flow ≥ 8.0 kW/m² \Rightarrow Fire class B_{fl}

Smoke production ≤ 750 % * min

\Rightarrow Smoke parameter s1

else \Rightarrow Smoke parameter s2

The corresponding test and classification reports with the detailed results of the tested variants are enclosed in annex of this report.

4.2 Sliding properties according to EN 13893:2003

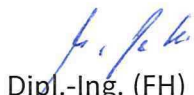
Variant	Estimated sliding coefficient μ according to EN 13893:2003 (1 rubber slider, 2 leather sliders)	Classification according to EN 14041:2008*
1	0.47	DS

* Requirement for class DS according to EN 14041: $\mu \geq 0.3$

5 Evaluation

The tested variants of SPC floorings can be classified regarding to the tested properties according to EN 14041:2008 for the CE-labelling as follows:

Variant	Properties	Results	Declaration according to EN 14041:2008
1+2	Reaction to fire performance according to EN ISO 9239-1 and EN ISO 11925-2, Classification according to EN 13501-1:2010 - Critical heat flow - Smoke production	11.4 kW / m ² 569 % x min	Reaction to fire class B _{fl} -s1
1	Sliding properties according to EN 13893:2003	$\mu = 0.47$	class DS



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