

TEST REPORT



Report No. : HV-19-03355

Page : 1 OF 1

Report Date : JUN. 26, 2019

Applicant: ARTISAN HARDWOOD INC.
 Sample Name: Innova SPC/ WPC Flooring
 Sample Submitted By: ARTISAN HARDWOOD INC.
 Date of Sample Received: June 14, 2019
 Date of Testing: June 14, 2019~ June 26, 2019
 Remark: 1.The information mentioned in the above section is provided by Client
 (Exclude Date of Sample Received and Date of Testing)
 2.The following report content marks # is provided by Client

Test Results:

Test Items:Plasticizer Analysis

Test Items	Unit	Test Methods	MDL	Test Result
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	%	With reference to CNS 15138-1 (2012). Analysis was performed by GC/MS.	0.003	n.d.
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	%		0.003	n.d.
BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	%		0.003	n.d.
DIDP (Di-isodecyl phthalate) (CAS No.: 26761-40-0; 68515-49-1)	%		0.01	n.d.
DINP (Di-isononyl phthalate) (CAS No.: 28553-12-0; 68515-48-0)	%		0.01	n.d.
DNOP (Di-n-octyl phthalate) (CAS No.: 117-84-0)	%		0.003	n.d.
DMP (Di-methyl phthalate) (CAS No.: 131-11-3)	%		0.003	n.d.
DEP (Di-ethyl phthalate) (CAS No.: 84-66-2)	%		0.003	n.d.
1.mg/kg = ppm ; 0.1wt% = 1000ppm 2. MDL = Method Detection Limit 3. n.d. = Not Detected = less than MDL				

Note:Plasticizer Analysis test are subcontracted to SGS Multi Chemical Laboratory-Taipei.

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The value of required specifications are for reference only.
 Conformity judgement is the Applicant's final verdict.

Signed for and on behalf of
 SGS TAIWAN Ltd.

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Material and Engineering Laboratory-Taipei

TEST REPORT



REPORT NO. : HV-18-03867

PAGE : 1 OF 1

REPORT DATE : Aug.10,2018

Applicant: Artisan Hardwood Inc.
 Sample Name: Waterproof Flooring
 Sample Submitted By: Artisan Hardwood Inc.(馮奕寧)
 Date of Sample Received: July 31, 2018
 Date of Testing: July 31, 2018~ August 10, 2018
 Remark: The information mentioned in the above section is provided by Client
 (Exclude Date of Sample Received and Date of Testing)

Test Result :

Test Item	Test Method	Test Result
Water resistance	Refer to CNS 8058(2014) Type D	No influence

----- o O o -----

The value of required specifications are for reference only.
 Conformity judgement is the Applicant's final verdict.

Carlos Mas
 Signed for and on behalf of
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国际互认
检测
TESTING
CNAS L4743

Test Report

No. AJFS1912013135FF

Date: DEC.27, 2019

Page 1 of 5

CHANGZHOU ARKWRIGHT DECORATIVE MATERIALS CO., LTD

ADDRESS: NO. 4 HENGLUO EAST ROAD, HENGLIN TOWN, CHANGZHOU CITY, JIANGSU PROVINCE, CHINA ZIP CODE: 213103

The following sample(s) was / were submitted and identified on behalf of the client. SGS is not responsible for the authenticity, integrity and results of the data and information and / or the validity of the conclusion. results apply to the sample as received.

Sample Name: SPC FLOORING

SGS Ref No.: SHIN1912087714CM

Style/Item No.: /

Test Requested:

EN 13501-1:2007+A1:2009 Fire classification of construction products and building elements—Part 1: Classification using data from reaction to fire tests

Test Results: -- See attached sheet --

Test Period:

Sample Receiving Date : DEC.11, 2019

Test Performing Date : DEC.11, 2019 TO DEC.23, 2019

Signed for and on behalf of
SGS-CSTC Co., Ltd. Anji Branch

Allen Zou
Lab Manager



AJFS1912013135FF



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SGS-CSTC Inspection & Testing Services Co., Ltd.
Anji Branch Fire Technology Service

No. 301, Sunlight Road, 2 Block, Sunlight Industry Zone, Anji County, Zhejiang Province, China 313300 t (86-572) 5018825 f (86-572) 5018829 www.sgs.com.cn
中国·浙江·安吉县阳光工业园二区阳光大道301号 邮编: 313300 t (86-572) 5018825 f (86-572) 5018829 e sgs.china@sgs.com

Member of the SGS Group (SGS SA)

I. Test conducted

This test was conducted as per EN 13501-1:2007+A1:2009 Fire classification of construction products and building elements— Part 1: Classification using data from reaction to fire tests. And the test methods as following:

1. EN ISO 9239-1:2010 Reaction to fire tests for floorings —Part 1: Determination of the burning behaviour using a radiant heat source.
2. EN ISO 11925-2:2010+Cor1:2011 Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test.

II. Details of classified product

Sample description	SPC flooring
Color	Yellow
Thickness	5.0mm
Mass per unit area	10285 g/m ²

Mounting and fixing:

Fibre cement board, with its density approximate 1800kg/m³, thickness approximate 9mm, is as the substrate. The test specimens are fixed mechanically to the substrate. No joint in the specimens.

III. Test results

Test method	Parameter	Number of tests	Results
EN ISO 9239-1	Critical flux (kW/m ²)	3	10.9
	Smoke (%×minutes)		119.7
EN ISO 11925-2 Exposure = 15 s	Whether vertical flame spread (Fs) in excess of 150 mm within 20 s (Yes/No)	6	No

To be continued...



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IV. Classification and direct field of application

This classification has been carried out in accordance with **EN 13501-1:2007+A1:2009**.

a) Classification

The product, SPC flooring, classification is as following,

Fire behaviour		Smoke production	
B _{fl}	—	s	1

Reaction to fire classification: B_{fl}—s1

Remark: The classes with their corresponding fire performance are given in annex A.

b) Field of application

This classification for the submitted sample is valid for the following end use condition:

- With all substrates classified as A1 and A2
- With mechanically fixing
- No joint

This classification is valid for the following product parameters:

- Characteristics as described in section II of this test report.

Statement:

This declaration of conformity is only based on the result of this laboratory activity, the impact of the uncertainty of the results was not included.

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

Warning:

This classification report does not represent type approval or certification of the product.

The test laboratory has, therefore, play no part in sampling the product for the test, although it holds appropriate references to the manufacturer’s factory production control that is aimed to be relevant to the samples tested and that will provide for their traceability.

To be continued...



Annex A

Classes of reaction to fire performance for floorings

class	Test methods	Classification	Additional classification
A1 _{fi}	EN ISO 1182 ^a and	$\Delta T \leq 30^{\circ}\text{C}$, and $\Delta m \leq 50\%$, and $t_r = 0$ (i.e. no sustained flaming)	-
	EN ISO 1716	PCS $\leq 2.0\text{MJ/kg}$ ^a and PCS $\leq 2.0\text{MJ/kg}$ ^b and PCS $\leq 1.4\text{MJ/m}^2$ ^c and PCS $\leq 2.0\text{MJ/kg}$ ^d	-
A2 _{fi}	EN ISO 1182 ^a or	$\Delta T \leq 50^{\circ}\text{C}$, and $\Delta m \leq 50\%$, and $t_r \leq 20\text{s}$	-
	EN ISO 1716	PCS $\leq 3.0\text{MJ/kg}$ ^a and PCS $\leq 4.0\text{MJ/m}^2$ ^b and PCS $\leq 4.0\text{MJ/m}^2$ ^c and PCS $\leq 3.0\text{MJ/kg}$ ^d	-
	EN ISO 9239-1 ^e	Critical flux ^f $\geq 8.0\text{kW/m}^2$	Smoke production ^g
B _{fi}	EN ISO 9239-1 ^e and	Critical flux ^f $\geq 8.0\text{kW/m}^2$	Smoke production ^g
	EN ISO 11925-2 ^h Exposure = 15s	F _s $\leq 150\text{mm}$ within 20 s	-
C _{fi}	EN ISO 9239-1 ^e and	Critical flux ^f $\geq 4.5\text{kW/m}^2$	Smoke production ^g
	EN ISO 11925-2 ^h Exposure = 15s	F _s $\leq 150\text{mm}$ within 20 s	-
D _{fi}	EN ISO 9239-1 ^e and	Critical flux ^f $\geq 3.0\text{kW/m}^2$	Smoke production ^g
	EN ISO 11925-2 ^h Exposure = 15s	F _s $\leq 150\text{mm}$ within 20 s	-
E _{fi}	EN ISO 11925-2 ^h Exposure = 15s	F _s $\leq 150\text{mm}$ within 20 s	-
F _{fi}	No performance determined		

^a For homogeneous products and substantial components of non-homogeneous products.
^b For any external non-substantial component of non-homogeneous products.
^c For any internal non-substantial component of non-homogeneous products.
^d For the product as a whole.
^e Test duration = 30 min.
^f Critical flux is defined as the radiant flux at which the flame extinguishes or the radiant flux after a test period of 30 min, whichever is the lower (i.e. the flux corresponding with the furthest extent of spread of flame).
^g **s1** = Smoke ≤ 750 % minutes;
s2 = not s1.
^h Under conditions of surface flame attack and, if appropriate to the end use application of the product, edge flame attack.

To be continued...



Photo Appendix:



SGS authenticate the photo on original report only

End of Report



Test Report

Original Report Date: June 10, 2018

Sample Description:

Product: SPC flooring

Model:1545mm*228mm*5.5mm

Samples Quantity: 15m²

Date Sample Received: May 21, 2018

Testing Period: May 21, 2018 to June 10, 2018

Tests Conducted:

Test Methods: ASTM E492-09, ASTM E989-06, ASTM E90-92, ASTM E413-10

Conclusion:

For details refer to attached page(s).

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

Should you have any queries about the test report, please contact:

Approved by :

Checked by:

Prepared by:

Dorian Wu

Jodie Zhou

Eric Zhu

Dorian Wu
Supervisor

Jodie Zhou
Technical Supervisor

Eric Zhu

Test Report

Test Items, Method and Results :

Test Method: ASTM E492-09

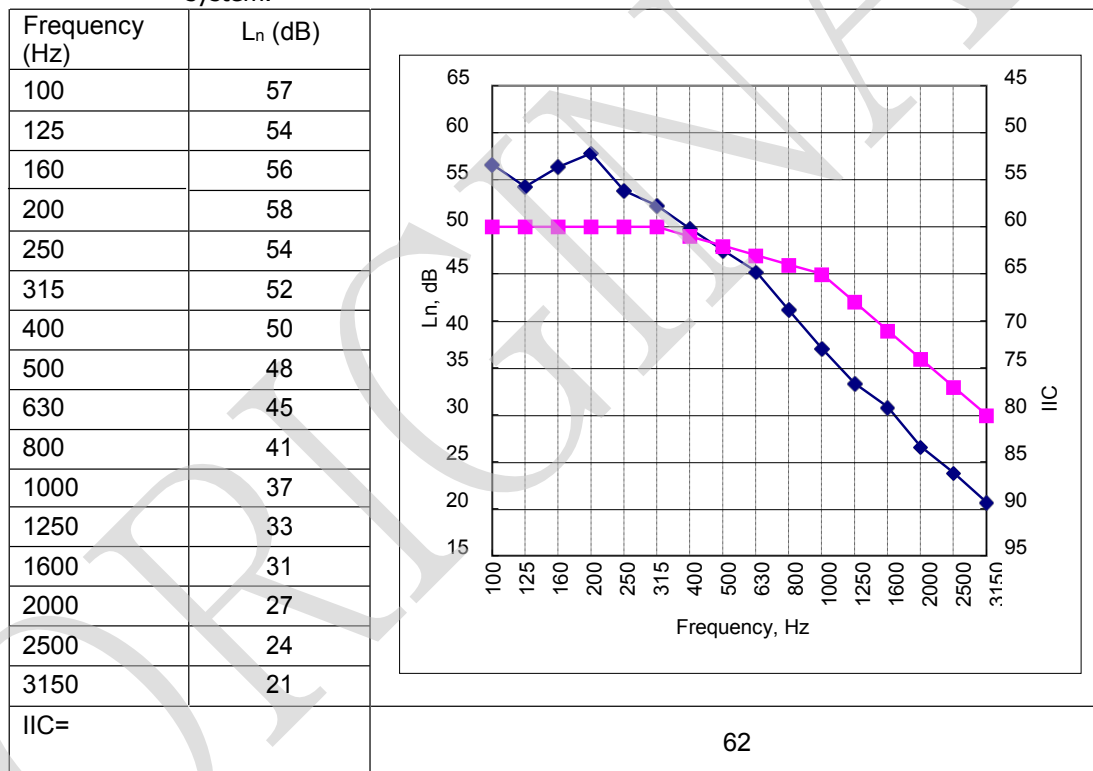
Temperature: 23°C

Relative Humidity: 60%

Specimen area: 13m²

Volume of the receiving room: 111m³

Floor/ceiling Assembly: The system consisted of 150mm thick concrete floor with a drop ceiling below forming the horizontal separation between two rooms, one directly above the other. The drop ceiling consisted of 350mm deep light steel bar joists spaced 1200mm on centre. The 12mm thick gypsum boards were fixed on the bar. 100mm thick fibre glass sound batts were placed in the 350mm space. The 5.5mm thick SPC flooring specimens were placed on the top of the system.



Calculated Impact Insulation Class: IIC 62

Remark :

1. L_n = Normalized Sound Pressure Level for Covering over Floor/ceiling System
2. Classified IIC in accordance with ASTM E989-06, Standard Classification for Determination of Impact Insulation Class.
3. The IIC was for the whole floor/ceiling assembly system.

Test Report

Test Items, Method and Results :

Test Method: ASTM E90-92

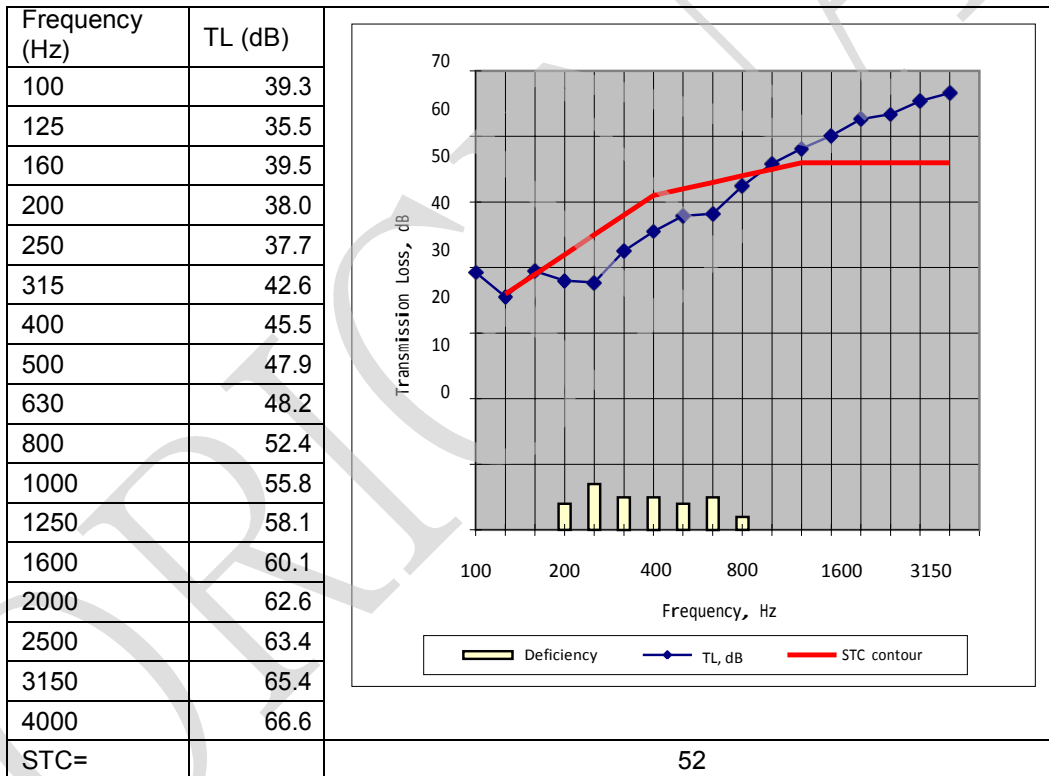
Temperature: 23°C

Relative Humidity: 60%

Specimen area: 13m²

Volume of the receiving room: 111m³

Floor/ceiling Assembly: The system consisted of 150mm thick concrete floor with a drop ceiling below forming the horizontal separation between two rooms, one directly above the other. The drop ceiling consisted of 350mm deep light steel bar joists spaced 1200mm on centre. The 12mm thick gypsum boards were fixed on the bar. 100mm thick fibre glass sound batts were placed in the 350mm space. The 5.5mm thick SPC flooring specimens were placed on the top of the system.



Calculated Sound Transmission Class: STC 52

Remark :

1. TL= Transmission loss, the partition was the Floor/ceiling Assembly System.
2. Classified STC in accordance with ASTM E413-10, Classification for Rating Sound Insulation.
3. The STC was for the whole floor/ceiling assembly system.

Test Report

No. AJFS1705002634FF

Date: MAY.23, 2017

Page 1 of 3

JIANGSU DONGZHENG NEW DECORATION MATERIALS CO., LTD

HENGLIN TOWN, WUJIN, CHANGZHOU, JIANGSU PROVINCE, CHINA

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

Sample Description: 3.2MM-6MM SPC FLOOR

SGS Ref No.: SHHL1705023116BM

Test Requested:

Testing in accordance with ASTM E648-2017 Standard test method for critical radiant flux of floor-covering systems using a radiant heat energy source

Test Results: -- See attached sheet --

Test Period:

Sample Receiving Date : MAY.12, 2017

Test Performing Date : MAY.12, 2017 TO MAY.23, 2017

Signed for and on behalf of
SGS-CSTC Co., Ltd. Anji Branch



Allen Zou
Technical Manager



SGS-CSTC Inspection & Testing Services Co., Ltd.
Anji Branch Hangzhou

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I. Test conducted

This test was conducted in accordance with ASTM E648-2017 Standard test method for critical radiant flux of floor-covering systems using a radiant heat energy source.

II. Sample details

Description	3.2mm-6mm SPC floor
Color	Brown
Specimen size	Length <u>1050</u> mm Width <u>225</u> mm Thickness <u>4.0</u> mm 3 PCS
Precondition	Temperature: 21±3℃, Humidity: 50±5%, Duration: 96h

III. Test results

Distance (mm)	S1	S2	S3
	Time (minute: second)	Time (minute: second)	Time (minute: second)
50	08:27	07:18	08:33
100	-	-	-
150	-	-	-
200	-	-	-
250	-	-	-
300	-	-	-
350	-	-	-
400	-	-	-
450	-	-	-
500	-	-	-
550	-	-	-
600	-	-	-
650	-	-	-
700	-	-	-
750	-	-	-
800	-	-	-
850	-	-	-
900	-	-	-
950	-	-	-
1000	-	-	-
1050	-	-	-
Extinguishing time	10:00	10:00	10:00
Burned distance (mm)	60	80	50

To be continued....



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	S1	S2	S3	Average	S	V
Critical radiant flux (W/cm ²)	≥1.1	≥1.1	≥1.1	≥1.1	---	---

Remark:

S—standard deviation; V—coefficient of variation

Classification: NFPA 101-2012 Life Safety Code Chapter 10 Interior Finish, Contents, and Furnishings
Clause 10.2.7 Interior Floor Finish Test and Classification,

- (1) Class I interior floor finish shall be characterized by a critical radiant flux not less than 0.45 W/cm².
- (2) Class II interior floor finish shall be characterized by a critical radiant flux not less than 0.22 W/cm² but less than 0.45 W/cm².

Since the tested sample received an average Critical radiant flux ≥1.1 W/cm², it meets the requirements of Class I for interior floor finish specified in NFPA 101-2012 clause 10.2.7.

Photo Appendix:



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