

Test Report

No. SHAHG1925903901

Date: 03 Dec 2019

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TWELVE OAKS FOREST PRODUCT INC.
201 WHITEHALL DR, UNIT 2 MARKHAM, ON L3R 9Y3

The following sample(s) was/were submitted and identified on behalf of the clients as : ENGINEERED WOOD FLOORING (HWPW-CC)

SGS Job No. : SHHL1911063347CB - SH
Date of Sample Received : 21 Nov 2019
Testing Period : 21 Nov 2019 - 03 Dec 2019
Test Requested : Selected test(s) as requested by client.
Test Method : Please refer to next page(s).
Test Results : Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
US EPA, 40 CFR Part 770, Direct Final Rule, July 11, 2017- Formaldehyde Emission Standards for Composite Wood Products to comply with Labelling requirement of Toxic Substances Control Act (TSCA) Title VI, with further revision-Final Regulation issued on August 21st, 2019 -Formaldehyde Emission	PASS

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

Lucia Liu

Lucia Liu
Approved Signatory



SHAHG1925903901



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SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing Center - China Head Office

13th Building, No. 889 Yishan Road Xuhui District, Shanghai China 200233
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233

t E&E (86-21) 61402553 f E&E (86-21) 64953679 www.sgs.com
t HL (86-21) 61402594 f HL (86-21) 61156899 e sgs.china@sgs.com

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA19-259039.001	Natural color plywood

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

US EPA, 40 CFR Part 770, Direct Final Rule, July 11, 2017- Formaldehyde Emission Standards for Composite Wood Products to comply with Labelling requirement of Toxic Substances Control Act (TSCA) Title VI, with further revision-Final Regulation issued on August 21st, 2019 -Formaldehyde Emission

Test Method : With reference to ASTM D6007-2014, analysis was performed by UV-Vis.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Formaldehyde Emission	★	ppm	0.01	ND
Conclusion				PASS

Notes :

- (1) On July 11, 2017, the US EPA published a Direct Final Rule (DFR) in the Federal Register to allow compliant composite wood products and finished goods that were manufactured before December 12, 2017 to be labeled as Toxic Substances Control Act (TSCA) Title VI Compliant. According to the DFR, compliant panels and finished goods could be voluntarily labeled as compliant as soon as compliance can be achieved
- (2) On August 21, 2019, the EPA published a revision to the Act addressing certain technicalities and to further align its requirements with the CARB ATCM Phase II Program
- (3) ppm = parts of formaldehyde per million parts air
- (4) ★ = See Table 1



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Reference Limit:

Maximum permissible limit according to 40 CFR Part 770.10:

Table 1: Formaldehyde Emission Standards(ppm) for Hardwood Plywood(HWPW), Particleboard(PB), and Medium Density Fiberboard(MDF)				
HWPW-VC	HWPW-CC	PB	MDF	Thin MDF
0.05	0.05	0.09	0.11	0.13
HWPW-VC = Veneer Core; HWPW-CC = Composite Core.				

Sample Conditioning / Parameters			
Average Temperature (°C)	24.0	Average Relative Humidity (%)	50.0
Range of Temperature (°C)	21.0- 27.0	Range of Relative Humidity (%)	45.0 – 55.0
Sampling Time (hour)	168	Formaldehyde background (ppm)	< 0.1
Sample Details and Apparatus			
Chamber Dimensions (m)	1.578 x 0.8 x 0.8 or 1.56 x 0.8 x 0.8 (Nominal)		
Chamber Volume (m³)	1.0	Chamber Load Ratio (m²/m³)	0.6399 (Particleboard, Hardwood Plywood Panels) / 0.3937 (MDF) / 1.4259 (Hardwood Plywood Wall Paneling) / 0.1968 (Particleboard Door Core)
Chamber Q/A Ratio (±2%)	1.172 (Particleboard, Hardwood Plywood Panels) / 1.905 (MDF) / 0.526 (Hardwood Plywood Wall Paneling) / 3.811 (Particleboard Door Core)		
Sample Size	32.3 cm x 33 cm (Particleboard, Hardwood Plywood Panels) / 25.6 cm x 25.6 cm (MDF) / 35 cm x 68 cm (Hardwood Plywood Wall Paneling) / 18.1 cm x 18.1 cm (Particleboard Door Core)		
Number of Samples	3	Number of Exposed Surfaces	6
Sampling Parameters of Emission Test			
Average Temperature (°C)	25.0	Average Relative Humidity (%)	50.0
Range of Temperature (°C)	24.0- 26.0	Range of Relative Humidity (%)	46.0 – 54.0
Air-sampling Time (min)	30	Sampling Time in Chamber (min)	240
Air-sampling Rate (L/min)	1.0	Formaldehyde background (ppm)	< 0.01



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*** End of Report ***

