

# Test Report

No.: SHAHL23022133401

Date: Jan 18, 2024

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Client Name: HANGZHOU ZEN BAMBOO & HARDWOOD PRODUCTS CO., LTD.

Client Address: HENGFAN INDUSTRIAL ZONE, TSINGSHAN SUB-DISTRICT, LIN' AN CITY, ZHEJIANG PROVINCE, CHINA311307

Sample Description: SOLID BAMBOO PLYWOOD

Style No.: VGC-19MM

Manufacturer: HANGZHOU ZEN BAMBOO & HARDWOOD PRODUCTS CO., LTD.

Origin of the Product(s): CHINA

Destination of the Product(s): USA

The above sample(s) and information were provided by the client.

SGS No.: SHHL2312068311FT

Sample Receiving Date: Dec 29, 2023

Testing Period: Dec 29, 2023 ~ Jan 18, 2024

Test Requested: Select test(s) as requested by the client.

Testing Performed: Follow selected test(s) as requested by client.

	Test Requirement	Conclusion
1	Final Regulation Order – Airborne Toxic Control Measure to Reduce Formaldehyde emissions from Composite Wood Product (CARB ATCM), title 17, California Code of Regulation, section 93120.2 (a) and Table 1 - Formaldehyde Emission	Pass

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

Danna Ji

Danna Ji  
Approved Signatory

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**Test Result(s):**

Test Part Description:

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	SHA23-0221334-0001.C001	Natural color solid bamboo plywood

Remarks:

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

**Final Regulation Order – Airborne Toxic Control Measure to Reduce Formaldehyde emissions from Composite Wood Product (CARB ATCM), title 17, California Code of Regulation, section 93120.2 (a) and Table 1 - Formaldehyde Emission**

Test Method: With reference to ASTM D6007- 2022, analysis was performed by UV-Vis.

Test Item(s)	Limit	Unit(s)	MDL	A1
Background	-	ppm	0.01	ND
Formaldehyde Emission	-	ppm	0.01	ND
Formaldehyde Emission (Corrected)	0.05	ppm	0.01	ND
<b>Conclusion</b>				<b>Pass</b>

**Notes:**

- (1) The scope of CARB ATCM is applicable for composite wood, but not for other wood products.
- (2) Formaldehyde emission test is one of the conformity criteria under CARB ATCM. Full conformity of a composite wood product happens provided that this composite wood fulfill all the requirement as stated in CARB ATCM title 17 section 93120 to 93120.12.
- (3) ppm = parts of formaldehyde per million parts air.
- (4) Formaldehyde Emission (Corrected) is Formaldehyde concentration corrected to 25°C and 50% Relative Humidity.

Reference Limit:

Maximum Permissible Limit according to Section 93120.2, Title 17, California Code of Regulation:

Table 1: Phase 1 and Phase 2 Formaldehyde Emission Standards for Hardwood Plywood(HWPW), Particleboard(PB), and Medium Density Fiberboard(MDF)					
Effective Date	Phase 1(P1) and Phase 2(P2) Emission Standards(ppm)				
	HWPW-VC	HWPW-CC	PB	MDF	Thin MDF
1-1-2009	P1:0.08	-----	P1:0.18	P1:0.21	P1:0.21
7-1-2009	-----	P1:0.08	-----	-----	-----
1-1-2010	P2:0.05	-----	-----	-----	-----
1-1-2011	-----	-----	P2:0.09	P2:0.11	-----
1-1-2012	-----	-----	-----	-----	P2:0.13
7-1-2012	-----	P2:0.05	-----	-----	-----

HWPW-VC = Veneer Core; HWPW-CC = Composite Core.

Sample Conditioning / Parameters			
Average Temperature (°C)	24.0	Average Relative Humidity (%)	50.0



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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 (m <sup>3</sup> )	1.0	Chamber Load Ratio (m <sup>2</sup> /m <sup>3</sup> )	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

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule ( $w=0$ ) stated in ILAC-G8:09/2019.



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Sample Photo:



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\*\*\* End of Report \*\*\*



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