Greenlam Industries Limited

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REAL WOOD FLOORS

FORMALDEHYDE EMISSION TEST REPORT

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Entwicklungs- und Prüflabor Holztechnologie GmbH
Zellescher Weg 24 · 01217 Dresden · Germany
www.eph-dresden.de

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TEST CERTIFICATE

CT-21-11-10-01

Product: 3-layer parquet
Product specification: Walnut
Thickness: 15 mm
Production date: 11 August 2021

Manufacturer: Greenlam Industries Ltd.
Plot no. E-/176-179 , Phase -II
RIICO Industrial Area,
P.O. BEHROR, Dist. Alwar (Rajasthan)
India

Client: Akzo Nobel Coatings Viet Nam Limited
Amata Industrial Zone, Bien Hoa City,
Dong Nai Province,Viet Nam

Order: Determination of the formaldehyde release according to the test chamber method EN 717-1

Test method: Test chamber method EN 717-1
Chemical analysis: Acetylacetone method

Report: Test report 2521405 dated 10 November 2021

Test result: The formaldehyde release of the tested product is 0.06 ppm.

The above-mentioned 3 layer parquet meets the material guideline value for parquet of 0.124 ppm regarding the formaldehyde emission and fulfils the requirements according to EN 14342:2013-09; "Wood flooring - Characteristics, evaluation of conformity and marking"

Dresden, 10 November 2021

Entwicklungs- und Prueflabor Holztechnologie GmbH EPH QUALITY TESTED

Head of laboratory

Engineer in charge

EPH
SUCCESS BY QUALITY

Entwicklungs- und Prueflabor Holztechnologie GmbH · Zellescher Weg 24 · 01217 Dresden · Germany

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SHAH/50
Dresden, 10 November 2021

Test Report no. 2521405

Client: Akzo Nobel Coatings Viet Nam Limited
Amata Industrial Zone, Bien Hoa City,
Dong Nai Province; Viet Nam

Manufacturer Greenlam Industries Ltd.
Plot no. E-/176-179 , Phase -II
RIICO Industrial Area,
P.O. BEHROR, Dist. Alwar (Rajasthan); India

Order: Testing of flooring material regarding:

- formaldehyde release according to test chamber method DIN EN 717-1

3-layer parquet; sample specification: Walnut

Contractor: Entwicklungs- und Prüflabor Holztechnologie GmbH (EPH)
Laboratory Chemical Testing
Zellescher Weg 24
01217 Dresden

Engineer in charge: Dipl.-Ing. (FH) S. Hahn

Dipl.-Ing. Martina Broege
Head of Laboratory Chemical Testing

1 Assignment

The laboratory chemical testing of the EPH was instructed to determine the formaldehyde release of 3-layer parquet according to test chamber method DIN EN 717-1.

This test report replaces test report 2521405 dated 04 November, 2021 with changes made under point 2 – Sample material.

2 Sample material

Sample delivery EPH: 16 August 2021, airtight wrapped

Sample	Description		Number Test pieces (TP) [mm³]
1	Final Product:	3-layer parquet	7 TP 500 x 145 x 15
	Manufacturer:	Greenlam Industries Ltd. Plot no. E-/176-179 , Phase -II RIICO Industrial Area, P.O. BEHROR, Dist. Alwar (Rajasthan) India
	Production Date:	11 August 2021
	Product specific.:	Walnut
	Wood Species:	Top: Walnut Middle: Pine Base: Pine
	Lamella Dimension:	Top: 2130 x 146 x 3 Base : 2130 x 480 x 2.2
	No. of Glue Line:	2
	Moisture Content:	9.1 – 10.1%
	Glue:	UF 1352, Modifier 2761B
	Hardener:	2750
	Mixing ratio [pbw]:	Glue mixture - 100 glue:20 modifier: 50 water Hardener mixture - 1 hardener:1 water Glue+Hardener mixing ratio - 100 glue:20 hardener

The test material was used up respectively is stored for 3 months.

3 Test chamber method DIN EN 717-1

Method: DIN EN 717-1:2005-01; Wood-based panels - Determination of formaldehyde release - Part 1: Formaldehyde emission by the chamber method

The determination of the formaldehyde release was carried out according to the chamber method DIN EN 717-1 (Testing "back to back") under following test conditions:

Sample 1			
Test pieces (TP):	4 TP à 200 x 280 [mm]	Temperature (T):	23°C ± 0.5 K
Test chamber:	KT-113 (0.225 m³)	Rel. air humidity (RH):	45 ± 3 %
Test period:	04/10/2021 - 01/11/2021	Air exchange ratio:	1.0 ± 0.05/ h
Start tests:	05/10/2021	Loading ratio:	1.0 ± 0.02 m²/m³
Edge sealing:	full	Parameter recording:	T; RH

Limit of Detection (LOD) of test method: *0.008 ppm HCHO*

4 Test results test chamber method DIN EN 717-1 and Evaluation[1]

Sample	Formaldehyde release DIN EN 717-1		*	Evaluation acc. to DIN EN 14342 Formaldehyde-class E1[2] Quality fulfilled	
	Unit	Measured value		Yes	No
1	ppm	0.06	IV (672 h)	☒	☐
	µg / m³	74			

* Cancellation criteria DIN EN 717-1:

- I lower detection limit over a testing time of 4 days
- II linear regression function from the test results of 4 consecutive days does not increase by more than 2 µg/m³
- III the decline of the calculated concentration curve is equal or lower than 5% over the testing time of 4 days (within 28 days)
- IV completely regression curve (max. 28 days)

Dipl.-Ing. (FH) S. Hahn
Engineer in charge

[1] Statements on conformity assessment/classification were made on the basis of the measurement results obtained. Measurement uncertainties are not included in the assessment (ILAC G8 03/2009 " Guidelines on the Reporting of Compliance with Specification" Section 2.7).

[2] EN 14342:2013-09 Wood flooring – Characteristics, evaluation of conformity and marking - Formaldehyde-class E1: Limit value formaldehyde ≤ 0,124 mg/m³

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