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Eximcorp India Pvt. Ltd.
87/1, Mundka Industrial Area, Delhi-Rohtak Road,
Road No. 10, Near Saraswa Va ka
110 041 New Delhi
India

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Your reference

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Our reference
Mey

Braunschweig, 22 October 2013

Test report No. QA-2013-2050

Client: Eximcorp India Pvt. Ltd.
87/1, Mundka Industrial Area, Delhi-Rohtak Road, Road No. 10,
Near Saraswa Va ka
110 041 New Delhi
India

Receipt of samples: 30 September 2013

WKI-ID-No.: 525/13

Objective of the test: Determination of formaldehyde release

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The test report comprises 3 pages and 3 tables.

This test report is not permitted to be published incompletely.

A publication in extracts is in any case subject to the previous consent of Fraunhofer-Institut für Holzforschung, Wilhelm-Klauditz-Institut (WKI), Bienroder Weg 54E in Braunschweig (Germany).

The test results exclusively refer to the objects of the test. The test material was used up.



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1. Task

The Fraunhofer-Institut für Holzforschung, Wilhelm-Klauditz-Institut (WKI), was assigned by Messrs. Eximcorp India Pvt. Ltd. in 110 041 New Delhi (India) to determine by measurements the formaldehyde emission potential of a wood based panel (see table 1 enclosed).

The determination of formaldehyde release should be carried out according to the American standard ASTM D 6007 – 02 "Determining Formaldehyde Concentration in Air from Wood Products Using a Small Scale Chamber".

2. Test material and data of receipt

The sample material was selected, marked by the customer and sent to the WKI for examination. The samples arrived at WKI packed in polyethylene plastic foil on 30 September 2013, were marked with WKI-ID-No. "525/13" and stored under room conditions.

3. Execution of the tests

Determination of formaldehyde release according to ASTM D 6007-02

Referring to chamber test according to ASTM D 6007-02 three samples with a total surface area of 0.43 m² (for particleboard or plywood) or 0.26 m² (for MDF) capable of emission were positioned vertically standing with a minimum distance of 0.15 m between each specimen in a closed chamber with a volume of 1 m³. The conditioning of the samples was done for seven days \pm 3 h at a temperature of (24 \pm 3) °C and a relative humidity of (50 \pm 5) %. The air exchange rate was adjusted to 2 AC/h.

Subsequent to seven-day-conditioning period the 1 m³ chamber was operated at 25 \pm 1 °C, a relative humidity of (50 \pm 4) % and an air exchange rate of (0.5 \pm 0.05) AC/h.

The formaldehyde concentration in the chamber was measured by taking air samples at a test period of 19 and 20 hours. To this end a gas quantity of at least 0.12 m³ at a rate of approximately 2 L/min was taken from the ambient air using gas sampling equipment and led through gas washing bottles filled with absorption liquid. The absorbed formaldehyde was determined photometrically and/or fluorimetrically according to the acetyl/acetone method described in EN 717-1:2005-01.

4. Test results

In the tables enclosed to the test report the sample identification data (table 1), test and conditioning parameter (table 2) and determined formaldehyde values (table 3) of the tested sample ordered by Messrs. Eximcorp India Pvt. Ltd. in 110 041 New Delhi (India) are specified.

We draw the attention to the fact that the effected test was made as a material parameter and not as a classifying test.



Bettina Meyer
Official in charge



Dipl.-Ing. Harald Schwab
Head of Testing, Supervision and
Certifying Body

Enclosure to test report No. QA-2013-2050
dated 22 October 2013

Table 1: Sample identification according to customer

WKI-ID-No.: 525/13

Sample name	12 MM BIRCH PLYWOOD WBP GRADE
Product code	NIL
Manufacturer	Sveza, Russia
Date stamp	N/A

Table 2: Test parameter of ASTM D 6007 – 02: “Determining Formaldehyde Concentration in Air from Wood Products Using a Small Scale Chamber”

Conditioning data					
Temperature of conditioning:	(24 ± 3)	[°C]	Rel. Humidity of conditioning:	(50 ± 5)	[%]
Minimum distance between samples:	0.15	[m]	Formaldehyde background concentration:	0.01	[ppm]

Chamber data			
Chamber volume	1		[m ³]
Temperature:	(25 ± 1)		[°C]
Rel. humidity:	(50 ± 4)		[%]
Type of wood based material:	particleboard or plywood	MDF	
Loading ratio*:	0.43	0.26	[m ² / m ³]
Air exchange rate:	0.5	0.5	[h ⁻¹]
Sample size (length x width)*:	0.5 x 0.143	0.5 x 0.085	[m]
Number of panels per chamber:	3	3	
Number of exposed surfaces:	6	6	

* depending on the type of wood based material tested

Table 3: Test results of ASTM D 6007 – 02 “Determining Formaldehyde Concentration in Air from Wood Products Using a Small Scale Chamber”
Receipt of samples: 30 September 2013
Start of chamber test: 16 October 2013

WKI-Sample-ID	525/13
Sample name	12 MM BIRCH PLYWOOD WBP GRADE – NIL – Sveza, Russia – N/A
Board producer	Eximcorp India Pvt. Ltd. in 110 041 New Delhi (India)
Thickness (mm)	12
Material type	Plywood, uncoated

Sample set 1				525/13-1
Test period	19	20	[h]	Average sample set 1
Temperature test conditions	25.3	25.4	[°C]	
Rel. Humidity test conditions	49.2	49.1	[%]	
Determined Chamber value	0.01	0.01	[ppm]	
Reported Chamber value corrected to 25°C/50%RH	0.01	0.01	[ppm]	0.01 ppm

Sample set 2				525/13-2
Test period	19	20	[h]	Average sample set 2
Temperature test conditions	25.1	25.2	[°C]	
Rel. Humidity test conditions	48.8	48.7	[%]	
Determined Chamber value	0.01	0.01	[ppm]	
Reported Chamber value corrected to 25°C/50%RH	0.01	0.01	[ppm]	0.01 ppm

Sample set 3				525/13-3
Test period	19	20	[h]	Average sample set 3
Temperature test conditions	25.0	25.1	[°C]	
Rel. Humidity test conditions	50.3	50.1	[%]	
Determined Chamber value	0.01	0.01	[ppm]	
Reported Chamber value corrected to 25°C/50%RH	0.01	0.01	[ppm]	0.01 ppm

Sample set 1 WKI-ID-No.: 525/13-1	Sample set 2 WKI-ID-No.: 525/13-2	Sample set 3 WKI-ID-No.: 525/13-3	Average value WKI-ID-No.: 525/13
0.01 ppm	0.01 ppm	0.01 ppm	0.01 ppm