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Pacific Ring Europe GmbH
Vahrenwalderstr. 7
30165 Hannover
Germany

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Your reference

Your message dated

Our reference
Mey

Braunschweig, 7 June 2016

Test report No. QA-2016-1540

Customer:	Pacific Ring Europe GmbH Vahrenwalderstr. 7 30165 Hannover Germany
Receipt of sample:	19 May 2016
WKI-ID-No.:	0400_2016
Start of test:	24 May 2016
Objective of the test:	Determination of the formaldehyde release
Content of the test report:	1. Task and test material 2. Execution of the test 3. Test result

Page 2
Page 2
Page 3

This test report comprises 3 pages and 1 figure.

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 and test material

The Fraunhofer-Institut für Holzforschung, Wilhelm-Klauditz-Institut (WKI), was entrusted by Messrs. Pacific Ring Europe GmbH in 30165 Hannover (Germany) with the determination of formaldehyde emission of a wall panel made (thickness: 10 mm, glued solid wood, surface treated) according to the EN 717-1:2005 "Wood-based panels - Determination of formaldehyde release - Part 1: Formaldehyde emission by the chamber method".

The test material was chosen, marked with

"Wall panel – Manufacturer: ABP – Production date: 10.05.16"

and sent for testing to the WKI by the customer.

Photos of the test material:

front



back



2. Execution of the test

Referring to the order and due to small sample dimensions 8 samples each with the dimensions of 125 mm x 500 mm x thickness and a total surface of 1 m² were put into a 1 m³ chamber to determine formaldehyde emission.

During the test the temperature was kept at 23°C ± 0.5 K, the relative humidity of the air was kept at 45 ± 3 % and the air exchange rate was adjusted to 1 h⁻¹. Therefore, the relationship between air exchange level and room load was 1. Prior to testing the edges were sealed gas-tight with aluminium foil to get a ratio U (unsealed edges) / A (surface area) of 1.5 m/m².

The concentration of formaldehyde in the chamber was measured twice a day by drawing app. 0.12 m³ air from the chamber through gas washing bottles filled with absorption solution. The formaldehyde content of the aqueous solution was determined photometrically or fluorimetrically by the acetylacetone method. Sampling has been periodically continued until the formaldehyde concentration in the chamber has reached a steady-state.

The analytical and climatic test parameter above-mentioned correspond to EN 717-1:2005-01. The standard test parameters published in the German "Bundesgesundheitsblatt" No. 34, 10 (1991), page 488 - 489, to fulfill the requirements of the German Chemikalien-Verbotsverordnung - ChemVerbotsV-, annex § 1, para 3, are observed as well.

3. Test result

For the tested sample named "Wall panel – Manufacturer: ABP – Production date: 10.05.16" of Messrs. Pacific Ring Europe GmbH in 30165 Hannover (Germany) as tested as described in Ch. 2 a formaldehyde concentration of < 0.005 ppm was determined in the 1 m³ chamber (blank value of the chamber: ≤ 0,005 ppm testing period: 195 hours – see figure enclosed – 1 ppm \triangleq 1.24 mg HCHO/m³ air at 23°C and 1013 hPa).

According to the German Regulation on the Prohibition of Chemicals an admissible maximum value of 0.1 ppm of formaldehyde measured in a test chamber applies to wood-based materials, determined as an equilibrium concentration.

We draw your 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

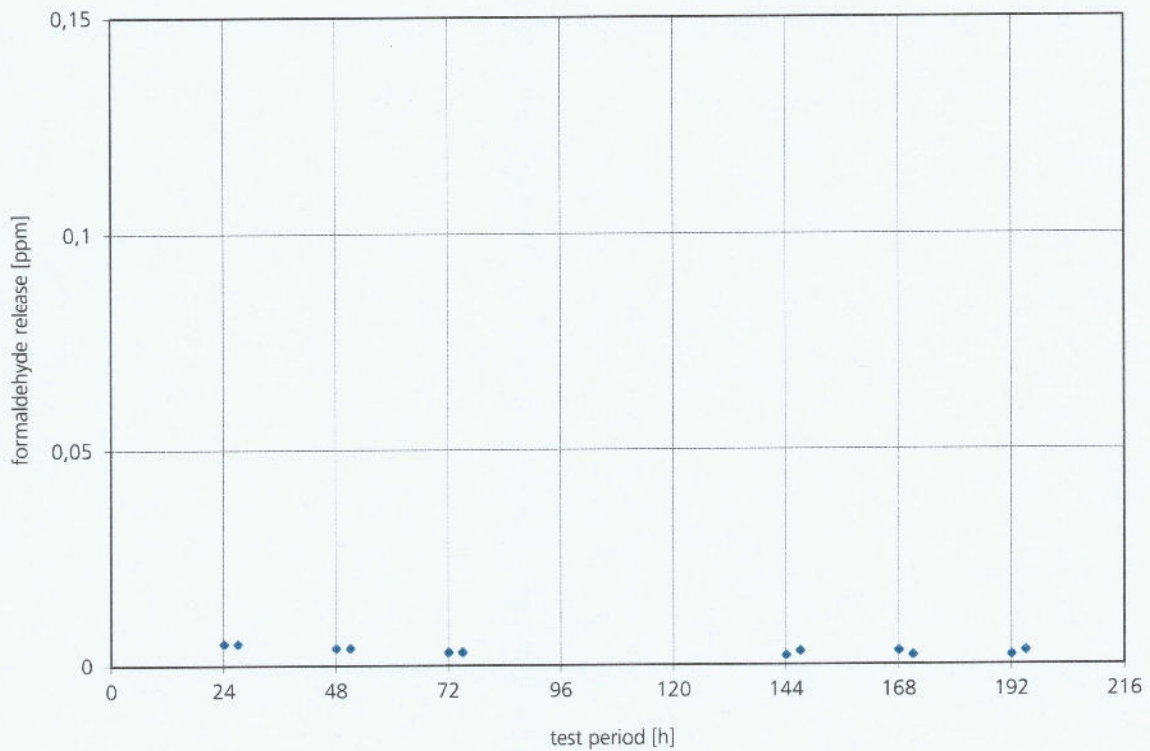


Figure: Determination of formaldehyde release using a 1 m³ chamber of wall panels made (thickness: 10 mm, glued solid wood, surface treated) marked with "Wall panel – Manufacturer: ABP – Production date: 10.05.16" sent by Messrs. Pacific Ring Europe GmbH in 30165 Hannover (Germany)