Test Report No. QA - 2016 - 2134

Client: JSC Cherepovets Plywood & Furniture Plant
Proyezhaya Str. 4
162604 Cherepovets
Russia

Objective of the test: Supervision of uncoated wood based materials according to the Final Regulation Order of Airborne Toxic Control Measure to Reduce Formaldehyde Emission from Composite Wood Products, 93120-93120.12, title 17, California Code of Regulations, § 93120 -Quarterly gas analysis test - Quarter 2/2016.

Product name: Birch Plywood
WKI-Identity-Number: 3187

Content of the test report:
1. Task
2. Test material and data of receipt
3. Execution of the test
4. Test results

The test report comprises 3 pages and 1 table. 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 38108 Braunschweig (Germany). The test results exclusively refer to the objects of the test. The test material was used up.
1. Task

Messrs. JSC Cherepovets Plywood & Furniture Plant in 162604 Cherepovets (Russia) assigned WKI to determine by measurements the formaldehyde emission potential of wood based panels according to the requirements published by CARB referring to the Final Regulation Order of Airborne Toxic Control Measure to Reduce Formaldehyde Emission from Composite Wood Products, 93120-93120.12, title 17, California Code of Regulations, § 93120.
A supervision contract with No. 0697 dated 6 January 2009 was signed by the customer.

According to § 93120, Appendix 2 (f)(3)(A) the quarterly chamber test has to be carried out for uncoated wood based panels by using the primary or secondary test method for each production line of each plant - see test report Nr. QA-2016-2133 dated 15 August 2016.

Additionally the determination of formaldehyde release was carried out according to gas analysis method EN 717-2:1995-01 used as factory quality control test method.

A correlation has been established between the quality control test method and the primary, secondary, or alternate secondary test method. The correlation was based on a minimum sample size of five data pairs (Appendix 2 (f)(2)) - see test report No. QA-2009-0004 dated 7 January 2009.

2. Test material and data of receipt

<table>
<thead>
<tr>
<th>Product:</th>
<th>plywood, unfaced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name:</td>
<td>Birch Plywood</td>
</tr>
<tr>
<td>Technical class:</td>
<td>CARB Phase 2</td>
</tr>
<tr>
<td>Plant:</td>
<td>JSC Cherepovets Plywood &amp; Furniture Plant in 162604 Cherepovets, Russia</td>
</tr>
<tr>
<td>Thickness (mm):</td>
<td>18</td>
</tr>
<tr>
<td>Thickness range (mm):</td>
<td>2 ≤ 40</td>
</tr>
<tr>
<td>WKI-Identity-Number:</td>
<td>3187</td>
</tr>
<tr>
<td>Production date:</td>
<td>21 June 2016</td>
</tr>
</tbody>
</table>

The sample material was selected and marked by a WKI’s representative on 22 June 2016 and sent to the WKI for examination.

The samples arrived at WKI packed separately in polyethylene plastic foil and stored under room conditions. Table 1 shows the data of receipt and test. The test material was used up.
3. Execution of the test

The determination of formaldehyde release was carried out without a prior conditioning according to the gas analysis method DIN EN 717-2:1995-01. The sample size was 400 mm x 50 mm x thickness. The edges of the test pieces were coated with self-adhesive aluminium tape before testing. The determination of formaldehyde release was carried out for samples after receipt without a prior conditioning.

4. Test results

In the table enclosed to the test report the data of receipt are mentioned and the formaldehyde release value of the tested sample is specified as an average value representing three boards tested.

A supervision contract exists.

Bettina Meyer  
Official in charge

Dipl.-Ing. Harald Schwab  
Head of Testing, Supervision and Certifying Body
Enclosure to Test Report No. QA-2016-2134
dated 15 August 2016

**Table:** Test material, data of receipt, test results
- Quarterly gas analysis test - 2/2016

<table>
<thead>
<tr>
<th>Sample-ID</th>
<th>Number of boards</th>
<th>Data of receipt</th>
<th>Test date</th>
</tr>
</thead>
<tbody>
<tr>
<td>3187</td>
<td>3</td>
<td>1 July 2016</td>
<td>7 July 2016</td>
</tr>
</tbody>
</table>

**Product:** plywood, unfaced
**Product name:** Birch Plywood
**Technical class:** CARB Phase 2
**Plant:** JSC Cherepovets Plywood & Furniture Plant in 162604 Cherepovets, Russia
**Thickness (mm):** 18
**WKI-Identity-Number:** 3187
**Production date:** 21 June 2016
**Audit date:** 22 June 2016

**Test results formaldehyde release according to gas analysis method EN 717-2**

<table>
<thead>
<tr>
<th>Sample-ID</th>
<th>Thickness [mm]</th>
<th>Moisture content [%]</th>
<th>Formaldehyde release* [mg HCHO/(h·m²)]</th>
</tr>
</thead>
<tbody>
<tr>
<td>3187</td>
<td>18</td>
<td>5.2</td>
<td>0.1</td>
</tr>
</tbody>
</table>

* average value of 3 boards tested; tested with sealed edges and without preconditioning as single determinations