Fraunhofer WKI | Bienroder Weg 54 E | 38108 Braunschweig | Germany

Pfleiderer Gütersloh GmbH
Stadtring Nordhorn 120
33332 Gütersloh
Germany

Fraunhofer Institute for Wood Research
Wilhelm-Klauditz-Institut WKI

Director
Prof. Dr. Bohumil Kasal

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

Bienroder Weg 54 E
38108 Braunschweig

Kathrin Huslage
Project manager formaldehyde analytics
Quality Assessment QA
Phone + 49 531 2155-376 | Fax + 49 531 2155-907
kathrin.huslage@wki.fraunhofer.de
www.wki.fraunhofer.de

Your reference	Your message dated	Our reference	
		Hus	Braunschweig, 04 May 2020

Test report No. QA-2020-1579

Customer:	Pfleiderer Gütersloh GmbH Stadtring Nordhorn 120 33332 Gütersloh Germany
Receipt of sample(s):	8 April 2020
WKI-ID-No.:	0184_2020
Start of JIS desiccator test:	29 April 2020
Objective of the test:	Determination of the formaldehyde release according to JIS A 1460

Content of the test report:

This test report comprises 3 pages and 1 table.

ilac-MRA

DAkkS Deutsche Akkreditierungsstelle D-PL-11140-14-00

VMPA Mitglied des Verbandes der Materialprüfungsanstalten

Fraunhofer WKI

1. Task and test material

The Fraunhofer-Institut für Holzforschung, Wilhelm-Klauditz-Institut (WKI), was entrusted by Messrs. Pfleiderer Gütersloh GmbH in 33332 Gütersloh (Germany) with the determination of the formaldehyde release according to the Japanese standard JIS A 1460, description of sample(s) see table(s) enclosed.

The test material was selected, marked by the client and delivered to the WKI for examination.

The test material arrived at WKI packed in polyethylene foil on 8 April 2020 was marked with WKI-ID-No. "0184_2020" and stored under room conditions (at 23°C / 50 % relative humidity). It was unpacked and cut off on 22 April 2020 and conditioned for seven days at a temperature of 20°C and a relative humidity of 65%.

The JIS desiccator test started on 29 April 2020.

2 . Execution of the test

The determination of the formaldehyde release was made according to the Japanese test method called JIS A 1460.

The sample was cut off into 8 pieces each with the dimension of 150 mm x 50 mm x thickness. They were placed on a grid made out of stainless steel by using metallic holders in a circle above a glass dish containing 300 ml distilled water.

This arrangement was kept for 24 hours at a temperature of 20°C in a desiccator (according to JIS R 3503; inner volume: 11 l). The formaldehyde content of the distilled water (having absorbed formaldehyde evaporated from the specimens) was determined by using the acetylacetone method. The tests were carried out after a prior conditioning of the samples for seven days at a temperature of 20°C and a relative humidity of 65%.

Fraunhofer WKI

3. Test results

The table enclosed to the test report shows the formaldehyde values of the tested sample(s). They are specified as individual values and as a mean value of a repeated determination as well.

Following limit values regarding formaldehyde release are fixed for uncoated and coated particleboards (JIS A 5908) or MDF (JIS A 5905) determined by using the desiccator method JIS A 1460:

formaldehyde grade	average value [mg HCHO/L]	single value [mg HCHO/L]
F☆☆☆☆	mean 0.3 or under	maximum 0.4 or under
F☆☆☆	mean 0.5 or under	maximum 0.7 or under
F☆☆	mean 1.5 or under	maximum 2.1 or under

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

Accredited Testing Laboratory Wilhelm-Klauditz-Institut WKI Braunschweig in accordance with ISO/IEC 10725

Kathrin Huslage
Official in charge

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

Enclosure to test report No. QA-2020-1579
dated 04 May 2020

Fraunhofer WKI

Table: Formaldehyde release according to the Japanese standard JIS A 1460 of a sample ordered by Messrs. Pfleiderer Gütersloh GmbH in 33332 Gütersloh (Germany)

Date of receipt:	8 April 2020
Start of conditioning period:	22 April 2020
Conditioning period:	7 days
Start of JIS test:	29 April 2020

WKI-ID-No.	Sample name according to customer		thickness [mm]	Number of test specimen	Formaldehyde release [mg / Liter] *	
					individual values	average value
0184_ 2020	"Sample name:	**16 mm JIS F****, beschichtet, W10220 MP beidseitig**				
	Product code:	440-2020				
	Thickness:	16 mm				
	Manufacturer:	Pfleiderer Gütersloh GmbH				
	Production date:	26 March 2020; coating on 2 April 2020"				
	- particleboard, faced on both sides		16	8	0.23 0.26	0.2
	Blank value		-	-	< 0.01	-

* Determination was carried out after a prior conditioning of the samples for seven days at a temperature of 20°C and a relative humidity of 65%