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Bru/50  
Dresden, 21 March 2022

**Test Report**  
**Order no. 2117029/E1-2020/PB-1\_2/2022/Ü1-1**

**Client:** Kronospan Trading SRL  
59 M. Kogalniceanu Str.  
RO 515800 Sebes  
Romania

**Order:** Testing of particleboards in the thickness range of 8 - 45 mm regarding:  
  
Formaldehyde release according to the  
test chamber method EN 16516  
  
Formaldehyde content according to the  
gas analysis method EN ISO 12460-3

**Contractor:** Entwicklungs- und Prüflabor Holztechnologie GmbH (EPH)  
Laborbereich Chemische Prüfung  
Zellescher Weg 24  
01217 Dresden

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



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

The test report contains 3 pages. Any duplication, even in part, requires written permission of EPH. These test results are exclusively related to the tested material.

## 1 Assignment

The Kronospan Trading SRL has assigned EPH Laboratory Chemical Testing to determine the Formaldehyde release of particleboards according to the test chamber method EN 16516 and to determine the Formaldehyde content according to the gas analysis method EN ISO 12460-3.

## 2 Sample material

Sample delivery: 07/02/2022, airtight wrapped

<b>Sample 1:</b>	Particleboard P2 (UF-glued)				
Product name:	PAL P2 IOSMAT 181	Number TP	Length [mm]	Width [mm]	Thickness [mm]
Sample code:	AB-PB-1/2-E12020-Ü1-1/1...5-22-02-xx				
Produktion date:	29/01/2022	5	500	500	16
Batch No:	106423/70				

*Test piece (TP)*

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

## 3 Investigations carried out

### 3.1 Gas analysis method EN ISO 12460-3

Method: EN ISO 12460-3:2021-02; Woodbased panels – Determination of formaldehyde release – Part 3: Gas analysis method

Test period: 24 / 28 February 2022

Size of test pieces: 402 x 52 mm

Edge sealing: full with about 1 mm overlap

Unsealed area resulted: 0.04 m<sup>2</sup>

*Limit of detection (LOD) test method:* 0.1 mg HCHO/m<sup>2</sup>h.

### 3.2 Test parameters EN 16516

Method: EN 16516:2020-10; Construction products – Assessment of release of dangerous substances – Determination of emissions into indoor air

<b>Sample 1</b>		
Test pieces (TP):	2 TP à 405 x 250 [mm]	Temperature (T): 23°C ± 0.5 K
Test chamber:	KT-42 (0.225 m <sup>3</sup> )	Rel. air humidity (RH): 50 ± 3 %
Test period:	08/02/2022 - 08/03/2022	Air exchange ratio: 0.5/ h ± 5%
Start tests:	11/02/2022	Loading ratio: 1.8 ± 0.02 m <sup>2</sup> /m <sup>3</sup>
Edge sealing:	ratio = 1.5 m/m <sup>2</sup>	Parameter recording: T; RH

*Limit of Detection (LOD) of test method:* 6 µg/m<sup>3</sup>

Formaldehyde was determined using the DNPH method. Sampling took place on the 3rd, 7th and 28th test day.


## 4 Test results and Evaluation<sup>1</sup>

### 4.1 Test results gas analysis method EN ISO 12460-3

Sample	Test date	Test device	Gas analysis values [mg HCHO /m <sup>2</sup> h]					
			Single values				Average value (2 h – 4 h)	
			1h	2h	3h	4h		
1 - 16 mm	24/02/2022	AT 75/1	0.76	1.42	1.46	1.32	1.4	<b>1.2</b>
	28/02/2022	AT 90/2	0.64	1.14	1.05	0.92	1.0	

### 4.2 Test results test chamber method EN 16516

Sample	Formaldehyde release EN 16516						Criteria acc. to German Prohibition of Chemical Ordinance – Formaldehyde class E1 <sup>2</sup>		Criteria IKEA IOS-MAT- 0181 <sup>3</sup>	
	3d		7d		28d		Quality fulfilled		Quality fulfilled	
	µg/m <sup>3</sup>	ppm	µg/m <sup>3</sup>	ppm	µg/m <sup>3</sup>	ppm	Yes	No	Yes	No
1 - 16 mm	143	0.12	134	0.11	<b>86</b>	<b>0.07</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

<sup>1</sup>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).

<sup>2</sup> German Chemical Prohibition Ordinance Appendix 1 to §3 dated 2017-01-20 in connection with „Bekanntmachung analytischer Verfahren für Probenahmen und Untersuchungen für die in Anlage 1 der Chemikalien-Verbotsverordnung genannten Stoffe und Stoffgruppen vom 5. November 2018“ published on 26 November 2018, BAnz AT 26.11.2018 B2  
 - Formaldehyde limit value acc. to German Prohibition of Chemical Ordinance = 0.1 ppm (124 µg/m<sup>3</sup>)  
 - Reference method EN 16516 (01/2018)

- according to UBA correspond to 0.1 ppm  $\cong$  124 µg/m<sup>3</sup>

<https://www.umweltbundesamt.de/themen/wirtschaft-konsum/produkte/bauprodukte/studien-zur-messung-bewertung-von-schadstoffen/formaldehydmissionen-pruefbedingungen-fuer>, Status 2019-06-12

<sup>3</sup> IKEA Specification IOS-MAT-0181, 2020-07-06, version no. AA-2183046-3, Table 1.4.1