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Dresden, 14 June 2021  
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## Supervision Report 2117025/2021/02

**Manufacturer:**

KRONOSPAN-MOFA Hungary Kft.  
Budapesti országút 72.  
7700 Mohács, Hungary

**Order:**

Third Party supervision, assessment and evaluation report on the periodic on-site inspection of the manufacturer's quality assurance program, quality control testing and quarterly formaldehyde emission testing concerning the assessment and verification of constancy of performance for wood based materials of products types covered by section 1 according to

*EPA TSCA Title VI*

Toxic Substances Control Act (TSCA) Title VI - 40 CFR Part 770 -  
Formaldehyde Standards for Composite Wood Products -  
U.S. Environmental Protection Agency (EPA)

*CARB Phase 2*

Final Regulation Order of "Airborne Toxic Control Measure (ATCM) to  
Reduce Formaldehyde Emission from Composite Wood Products" -  
§93120 - 93120.12, title 17, California Code of Regulations -  
California Air Resources Board (CARB)

*IOS-MAT-0003 v15*

IKEA specification no. IOS-MAT-0003, version no. AA-10899-15 -  
Formaldehyde requirements of wood, wood-based and wood-like natural  
materials and products

**Third Party Certifier (TPC):**

Entwicklungs- und Prüflabor Holztechnologie GmbH (EPH)  
Zellescher Weg 24, 01217 Dresden, Germany  
EPA TSCA Title VI- and CARB-recognized TPC-10  
IKEA-approved TPC

**Person in charge:**

Dipl.-Chem. C. Osthaar

The supervision report contains 6 pages and 1 annex.  
Any publication of this report – even in part – requires prior written approval of EPH.

## 1 Assignment

By order of California Air Resources Board (CARB) with reference to the executive order W-21-010 and recognition by Environmental Protection Agency (EPA), the Entwicklungs- und Prüflabor Holztechnologie GmbH (EPH), was approved as Third Party Certifier, with assigned number TPC-10, to provide certification services under Toxic Substances Control Act (TSCA) Title VI - 40 Code of Federal Regulations (CFR) Part 770 - Formaldehyde Standards for Composite Wood Products – issuing authority is the U.S. Environmental Protection Agency (EPA) and Final Regulation Order of “Airborne Toxic Control Measure (ATCM) to Reduce Formaldehyde Emission from Composite Wood Products” - § 93120 - 93120.12, title 17, California Code of Regulations – the implementing authority is the California Air Resources Board (CARB).

Manufacturer of composite wood products must demonstrate compliance with *EPA TSCA Title VI* and *CARB Phase 2* regulations by third party supervision and certification. These final rules include formaldehyde emission standards applicable to hardwood plywood (HWPW), medium density fiberboard (MDF), and particleboard (PB), that are sold, supplied, offered for sale, or manufactured (including imported) in the United States and on the Californian market.<sup>1</sup>

Periodic inspections are carried out four times a year according to the requirements of TSCA Title VI - § 770.7 (c)(4)(i)(A)-(F) and Final Regulation Order § 93129.12 Appendix 3.

The CARB/EPA-recognized TPC

- (A) verifies that the panel producer’s quality assurance and quality control procedures are complying with the requirements
- (B) verifies the panel producer’s quality control test results compared with test results from ASTM E1333-14 or ASTM D6007-14, if used, by having the TPC laboratory conduct quarterly tests
- (C) establishes quality control limit(s) (QCLs) for each product type
- (D) establishes a process that will be used to determine if products are exceeding the applicable QCL
- (E) provides the CARB or EPA TPC number to the panel producer for labeling and recordkeeping; and
- (F) inspects the panel producer, its products and records at least quarterly

IKEA specification no. IOS-MAT-0003 v15: The section 1.4. covers board materials that are in the scope of *EPA TSCA Title VI* and *CARB Phase 2* regulation. All boards shall be certified by an IKEA-approved TPC regarding CARB and US EPA TSCA title VI.

KRONOSPAN-MOFA Hungary Kft. assigned Entwicklungs- und Prüflabor Holztechnologie GmbH (EPH) as EPA TSCA Title VI-approved and CARB-approved TPC-10 and IKEA-approved TPC with the regular quarterly supervision, including on-site inspections, monitoring of the manufacturers quality assurance program and quality control facilities as well as determination of the formaldehyde emission of fiberboards according to above mentioned regulations.

Third Party Supervision and Certification Agreement no. : MDF/HDF -08-12-08 dated 8 December 2008 with amendment of 4 July 2017						
Product no.	Product type <sup>2</sup>	Product name <sup>3</sup>	Resin type	Thickness range	CARB Phase 2/ EPA TSCA Title VI	IKEA IOS-MAT-0003
Product 1	Thin MDF	HDF/MDF E-LE	mUF	1.8 – ≤ 8 mm	☒	☒

<sup>1</sup> EPA aligned, to the extent practicable, the EPA TSCA Title VI requirements with those in the CARB Phase 2 to avoid placing differing or duplicate requirements on the regulated community.

<sup>2</sup> Product types classified acc. to EPA TSCA Title VI and CARB Phase 2 regulations

<sup>3</sup> Assigned by manufacturer. Multiple products can be grouped into a single product type for certification; formaldehyde emissions test results must demonstrate that grouped products have similar formaldehyde emissions fit the same correlation curve or linear regression.



## 2 Audit information

### 2.1 On-site inspection by TPC

The on-site inspection at the manufacturer's production site took place on 30 April 2021 - 2nd Quarter 2021.

#### 2.1.1 Composition of TPC audit team

Name	Role in Audit (e.g. sole auditor, lead-/co-auditor, technical specialist etc.)
G. Kun	sole auditor

#### 2.1.2 Interviewed representatives of manufacturer

Name	Position (e.g. quality control manager, laboratory manager, qc employee etc.)
G. Katoli	quality control manager
T. Faczan	head of laboratory

#### 2.1.3 Results of inspection

- The quality control manual (version 17, dated 2020-09-01) has been reviewed and approved. The manual complies with the requirements of § 770.21 (a)(i)-(xii) and the panel producer's quality assurance procedures are adequate to ensure that the required emission limits are being met on an ongoing basis.
- All relevant manufacturing parameters and procedures are recorded in regular intervals allowing the detection of production failures and products not meeting the requirements.
- Quality control testing is done acc. to perforator method acc. to EN ISO 12460-5 and gas analysis method acc. to EN ISO 12460-3. Standard operating procedures are available.
- Correlation between ASTM E1333-14 and quality control test method has been demonstrated for each testing apparatus in accordance with § 770.20 (d)(2)(i)(ii): for perforator method in 2020 respectively for gas analysis method in 2020.
- All laboratory equipment used in the quality control testing of formaldehyde content/emission is regularly calibrated and maintained and used in accordance with the equipment manufacturer's instructions.
- Frequency of quality control testing is in compliance with the requirements of § 770.20 (b)(2)(i)(A)-(E).
- The documentation of the quality control data has been checked. The test results of the quality control testing are recorded separately for each product type.
- The manufacturer provides the TPC with monthly quality control data reports of each product type according to § 770.40 (b).
- The quality control employees have adequate experience and training to conduct accurate chemical quantitative analytical tests. The quality control employees were interviewed and tested.
- An examination of the quality control test method has been carried out during inspection to check the procedure/equipment and limit values. Compliance to the limit of EN ISO 12460-5 respectively EN ISO 12460-3 verified and documented.
- The manufacturer labels certified products with the required information for identification in accordance with EPA TSCA Title VI § 770.45 and CARB Phase 2, respectively IKEA provisions.
- No additional quality control tests due to variation from levels set in reference parameters.
- No non-complying lots were produced during last supervision period.
- Samples for quarterly formaldehyde emission testing were selected according to point 2.2.

Non-conformities:

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The audit minutes were handed over to the manufacturer.

## 2.2 Sampling selection, handling and shipping

Samples (including a reserve set) were randomly chosen by an *EPA TSCA Title VI/CARB Phase 2 TPC auditor* from a single batch that is ready for shipping. Samples must not include the top or the bottom composite wood product of a bundle. Samples were labelled, bundled airtight, wrapped in polyethylene and promptly shipped to the TPC laboratory.

Product no.	Product 1
EPH-Identity-no.:	R-HDF-1-R2-1(2)/1...7-21-04-30
Product type:	Thin MDF
Product name:	MDF/HDF E-LE
Thickness range:	1.8 mm - ≤ 8 mm
Batch/Lot no.:	565/01
Production date:	2021-04-29
Panel thickness:	2.8 mm
Dimension of panel:	2440 x 1830 [mm]

## 3 Testing by TPC laboratory

The test results are compiled in test report no. 2117025/2021/02 dated 11 June 2021 (annex).

## 4 Assessment

### 4.1 General assessment

Manufacturer's quality assurance program is in compliance with the requirements of *EPA TSCA Title VI* and *CARB Phase 2* and with the additional requirements of *IKEA IOS-MAT-0003 v15*.

Inspection of the quality control test method at the manufacturer  
 did not reveal any non-conformities.       non-conformities as specified in section 2.1.3

Comparison tests of the quality control test methods between manufacturer and TPC laboratory has been carried out to verify the correlation of the quality control test methods.  
 did not reveal any non-conformities.       non-conformities as described in test report point 4.2

The release of formaldehyde emission of the present product has been determined (s. EPH-Identity-no.). The detailed test results can be found in test report of TPC laboratory.

The product complies with the limit value of ASTM E1333 or ASTM D6007 = 0.13 ppm according to formaldehyde release of *EPA TSCA Title VI* and *CARB Phase 2* regulations.

For *IKEA IOS-MAT-0003 v15*, compliance to the limit of ASTM E1333 or ASTM D6007 = 0.08 ppm has been verified and confirmed.

For *IKEA IOS-MAT-0003 v15*, compliance to the perforator limit of EN ISO 12460-5 = 5.0 mg/100 g has been verified and confirmed.



MDF/HDF E-LE			Applicable QCL <sup>4</sup>		Criteria fulfilled	
			CARB/EPA	IKEA v15 <sup>5</sup>	TSCA Title VI/ CARB Phase 2	IOS-MAT- 0003 v15
EPH						
ASTM E1333-14	[ppm]	0.06	/		YES	YES
EN ISO 12460-5	[mg/ 100 g]	2.3	/		n/a	YES
EN ISO 12460-3	[mg/ m <sup>2</sup> h]	1.0	/		n/a	n/a
Manufacturer						
EN ISO 12460-5	[mg/ 100 g]	1.9	4.5	2.9	YES	YES
EN ISO 12460-3	[mg/ m <sup>2</sup> h]	0.8	2.3	1.4	YES	YES

n/a... not applicable

The **limit values** according to the requirements of *EPA TSCA Title VI - 40 CFR Part 770 - Formaldehyde Standards for Composite Wood Products - § 770.10 (b)(1)-(4) "Formaldehyde emission standards"* and *CARB Phase 2 - Final Regulation Order of "ATCM to Reduce Formaldehyde Emission from Composite Wood Products" - § 93120 - 93120.12, title 17, California Code of Regulations, § 93120.2 (a) "Formaldehyde Emission Standards for Hardwood Plywood (HWPW), particleboard (PB), and Medium Density Fiberboard (MDF)"* and *IKEA specification no. IOS-MAT-0003, version no. AA-10899-15 - Formaldehyde requirements of wood, wood-based and wood-like natural materials and products are listed in annex of the test report.*

#### 4.2 Non-conformities and notes

##### 4.2.1 Fulfilment of non-conformities of previous supervision

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##### 4.2.2 New non-conformities and notices

None.

Minor deviations - items as specified in section 2.1.3: verification that corrective action has been effectively documented and implemented, will be checked at next on-site inspection.

Major deviations - certification of \_\_\_\_\_ suspended due to failure at quarterly formaldehyde emission compliance test. Recertification of \_\_\_\_\_ by compliance test according to ASTM E1333 or ASTM D6007 shall be carried out within the next 6 weeks.

Critical deviations - certification to be issued following a satisfactory follow-up visit and verification that corrective action have been effectively documented and implemented.

Others.

## 5 Summary assessment of supervision

In result of the inspection of the manufacturing plant, it can be stated, that the personnel and equipment conditions for a constant correct production are given and that the procedures and the testing frequency of the quality control test method fulfills the requirements of *EPA TSCA Title VI* and *CARB Phase 2* in all significant aspects.

The product complies with the limit values according to formaldehyde release of *EPA TSCA Title VI*, *CARB Phase 2* with *IOS-MAT-0003 v15* regulations.

It can be stated that the manufacturer has proven the fulfilment of the requirements for maintaining certification.

<sup>4</sup> If EPA/CARB QCL ≠ IKEA limits = Internal restriction to lowest limit (CARB/EPA respectively IKEA). QCL means the value from the quality control test method at manufacturer that is the correlative equivalent to the maximum value in the chamber tests ASTM E1333 or ASTM D6007 permitted by the applicable emission standard for the product type.

<sup>5</sup> QCL-calculation acc. to IKEA IOS-MAT-0003 v15 limit value of 0.08 ppm.

The continued validity of the initial certificate (IC) for CARB Phase 2 of product 1 is recommended.  
The continued validity of the initial certificate (IC) for TSCA Title VI of product 1 is recommended.

Product no.	Product name	Thickness range	CARB Phase 2 (IC)	TSCA Title VI (IC)
Product 1	MDF/HDF E-LE	1.8 – ≤ 8 mm	CARB-09-02-12-01	TSCA-2017-09-07-01

Next on-site inspection due: 3rd Quarter 2021

Dresden, 14 June 2021



Dipl.-Chem. C. Osthaar  
Person in Charge TPC

## 6 Assessment and certification decision

The results of the supervision, documented in this report, were evaluated. The evaluator agrees to the conclusions of section 4 (assessment and non-conformities) and section 5 (summary).

The issuance of the attestation of conformity acc. CARB Phase 2 of product 1 is hereby confirmed.  
The issuance of the attestation of conformity for TSCA Title VI of product 1 is hereby confirmed.

Dresden, 14 June 2021



Dr.-Ing. Rico Emmeler  
Head of Certification Body