FORMALDEHYDE EMISSIONS DETERMINATION FROM WOOD-BASED PANELS

TESTING OF
Compact Laminates

PROJECT DESCRIPTION:
UL Environment and its ISO 17025 accredited testing laboratories present the results of its formaldehyde emission testing of a wood-based panel product identified as Compact Laminates submitted by Crown Decor Pvt Ltd

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BELAC 633-TEST

Emission test report of a UL sample Compact laminates (Order 1320914)

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Servaco Product Testing is a joint venture between VITO and the Servaco Group. The new company focuses on product emission testing and VOC reduction performance testing. The product emission tests analyse the impact of all kinds of building and consumer products and materials on indoor air quality. The Joint Venture has departments in Mol and Wetteren. The product emission tests are performed in Mol.

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1. OBJECTIVE/EVALUATION FRAMEWORK

Determination of the volatile organic compound emissions for the UL sample ‘Compact laminates’ according to the German ChemVerbotsV: Order 1320914

German ChemVerbotsV	German regulation BAnz AT 26.11.2018 B2.

2. SAMPLE INFORMATION

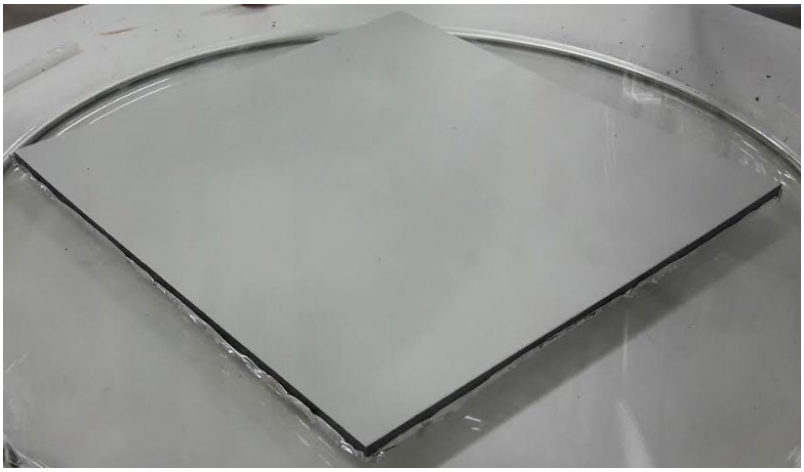
Table 1: Sample information provided by client

S1

Sample identification	Compact laminates
Date of production	12/01/2020
Date of sampling	12/01/2020
Batch N°	
Type of product	Laminate flooring
Article nr.	
Misc.	Thickness – 6 mm

Table 2: Sample information provided by Servaco Product Testing

Sample group code	**SPT2020027**
Sample code	SPT20200312
Date of reception of the sample	24/01/2020
Preconditioning period (start – end)	/
Date of the test (start – end)	28/01/2020-25/02/2020



Photograph 1: test sample S1

3. TEST METHODS - ACCREDITATION

The following test methods were used:

- Test chamber was operated according to EN 16516 (2017) (ISO 16000-9 with extra clauses): Construction products – Assessment of release of dangerous substances – Determination of emissions into indoor air (internal procedure MIM-GA-013)
- Analysis of TENAX samples was performed according to EN 16516 (2017) (ISO 16000-6 with extra clauses): Construction products – Assessment of release of dangerous substances – Determination of emissions into indoor air (internal procedure MIM-GA-014)
- Analysis of DNPH cartridges was performed according to EN 16516 (2017) (ISO 16000-3): Construction products – Assessment of release of dangerous substances – Determination of emissions into indoor air (internal procedure MIM-OR-022)
- The test sample preparation was performed according to EN 16516 (2017) (ISO 16000-11 with extra clauses): Construction products – Assessment of release of dangerous substances – Determination of emissions into indoor air (internal procedure MIM-GA-013)

Table 3: Overview of the test method parameters

EN 16516 method

Analytical methods	**analytes**
ISO 16000-3	Volatile aldehydes (C1-C4)
ISO 16000-6 + extra clauses	VOC, SVOC
Test chamber parameters	**values**
	S1
Chamber volume (m^3)	0.062
Air exchange rate (h^{-1})	0.5
Temperature (°C)	23 ± 1
Relative humidity (%)	50 ± 5
Loading factor (m^2/m^3)	1 (recalculated to 1.8)
Sample preparation	
Dimensions (m^2)	0.21 x 0.21
Covering edges	Partly open edges
Application amount (g)	/

Servaco Product Testing is an accredited laboratory according to EN ISO/IEC 17025 (BELAC 633-TEST) for the internal procedures MIM-GA-013 and MIM-GA-014. The analysis of DNPH cartridges (internal procedure MIM-OR-022) was subcontracted to VITO and is part of their EN ISO/IEC 17025 accreditation scope (BELAC 045-TEST). The analytical measurement uncertainty (expanded uncertainty) for volatile aldehydes amounts to maximum 15 % and 30 % for the other target compounds.

4. EVALUATION OF THE RESULTS

4.1. COMPARISON WITH LIMIT VALUE OF GERMAN CHEMVERBOTSV

Formaldehyde < 0.1 ppm (124 µg/m^3)

The amount of formaldehyde in the sample is 89 µg/m³ or 0.07 ppm.

5. CONCLUSIONS

In the final table below is shown whether the product complies with the German ChemVerbotsV.

	S1
ChemVerbotsV	√

X : not compliant
√ : compliant

The sample complies with the German ChemVerbotsV.

According to the decision rule defined in the contract, for the above statements of conformity the measurement uncertainty was not taken into account.

6. AUTHORISATION OF REPORT

This report contains the results of samples, analysed within the scope of a study ordered by UL International Italia S.r.l. (Via Europa 9, I – 22060 – Cabiate (Como), Italy). It relates to the sample(s) with the following Servaco Product Testing - identification:

Sample monster codes belonging to sample group SPT2020027	
From	To
SPT20200312	SPT20200312

Servaco Product Testing is an accredited laboratory according to EN ISO/IEC 17025 (BELAC 633-TEST) for the internal procedures MIM-GA-013 and MIM-GA-014. The analysis of DNPH cartridges (internal procedure MIM-OR-022) was subcontracted to VITO and is part of their EN ISO/IEC 17025 accreditation scope (BELAC 045-TEST).

The laboratory is not responsible for the accuracy of the information provided by the customer (see Table 1).
The analytical results in this research report only relate to the samples analysed. Interpretations, advice and other not merely objective information are not covered by the EN ISO/IEC 17025 accreditation. Further information on measurement uncertainty and sample preservation will be provided upon request.

Dates of analysis:

- DNPH: 27/02/2020

This research report consists of 9 numbered pages, and the signature below confirms the authorisation of the analytical results according to EN ISO/IEC 17025.

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