

Translation from Polish into English



**Instytut Techniki Budowlanej
(Building Research Institute)**

Testing Laboratories Unit

accredited by the Polish Centre for Accreditation -
accreditation certificate no. AB 023

TEST REPORT LZF00-01901/25/R82NZF

Client: Profile VOX Sp. z o.o. Sp. k.
ul. Gdyńska 143
62-004 Czerwonak, Poland

Product name: Slat panel S
(declared by the Client)

Date of issue: 30 September 2025

Laboratory of Thermal Physics, Acoustic and the Environment (NZF)
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1. Information on testing

Product manufacturer: Profile VOX Sp. z o.o. Sp. k.
ul. Gdyńska 143
62-004 Czerwonak, Poland

This test report contains the results of accredited and non-accredited tests. The results of non-accredited tests are marked as "outside the scope of accreditation".

Test start date: 22-08-2025

Test end date: 19-09-2025

Other information on testing:

Sample unpacking date: 22-08-2025

Sample preparation date: 22-08-2025

Date of placing the sample in the emission test chamber: 22-08-2025

Sample surface area: 0.14 m²

Stainless steel chamber; capacity: 0.1 m³

Chamber fill rate: 1.4 m²/m³

Temperature: (23±1)°C

Relative humidity: (50±5)%

Air exchange rate: 0.5 h⁻¹

Place of testing:

LZF laboratory, at the following address: ul. Filtrowa 1, 00-611 Warsaw, Poland.



Fig. 1. Sample of the slat panel S prepared for testing

2. Product

2.1. Information provided by the Client

Product:	Slat panel S
Declared scope of application:	Slat panel S is a decorative PVC-U panel intended as ceiling and interior wall finishing.
Product range:	The slat panel group includes: panel S, 14mm thick; panel M, 20mm thick; panel XL, 8mm thick. A 14mm thick slat panel S was selected as representative for testing.

3. Tested item, sample

3.1. Information provided by the Client

Origin of the sample:

Place of collection: from the warehouse

Date/time of collection: 08.08.2025/12:00

Place of manufacture: Profile VOX Sp. z o.o. Sp. k., ul. Gdyńska 143, 62-004 Czerwonak, Poland

Production date: 07 July 2025

3.2. Information obtained from visual inspection in the Laboratory

Acceptance of the test item into the laboratory:

Date:	13 August 2025
Acceptance report:	LZF00-01901/25/R82NZF

Condition of the test item:

The sample was delivered in a condition and quantity suitable for testing.

Description of the test item:

Three samples of the product were delivered for testing, each packed separately.



Fig. 2. Sample of the slat panel S as delivered to the laboratory

Storage of the test item:

From the moment the sample was accepted until the start of the test, the sample was stored under laboratory conditions.

4. Test results**4.1. Testing for the emission of volatile organic compounds and volatile aldehydes**

Volatile organic compounds were collected on Tenax tubes and analysed by thermal desorption using gas chromatography with a mass spectrometer (GC-MS). The compounds were identified using a mass spectrum library. The limit of quantification of this method is $1 \mu\text{g}/\text{m}^3$.

In order to determine the volatile aldehydes, an air sample was collected on cassettes with a solid absorbent, silica gel with 2,4-dinitrophenylhydrazine (2,4-DNPH) applied to it, and then subjected to laboratory testing using high-performance liquid chromatography (HPLC/UV). The limit of quantification of this method is $1 \mu\text{g}/\text{m}^3$.

4.1.1. Test method

- 1) PN-EN 16516+A1:2020-12 Construction products: Assessment of the release of dangerous substances - Determination of emissions into indoor air
- 2) PN-EN ISO 16000-9:2024-09 Indoor air - Part 9: Determination of emissions of volatile organic compounds from samples of building products and furnishing elements - Emission test chamber method.
- 3) ISO 16000-6:2021 Indoor air - Part 6: Determination of organic compounds (VVOC, VOC, SVOC) in indoor and test chamber air by active sampling on sorbent tubes, thermal desorption and gas chromatography using MS or MS FID
- 4) ISO 16000-3:2022 Indoor air - Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air - Active sampling method.

The test procedure, environmental conditions and accuracy of the measuring devices used comply with the requirements of the said standard.

4.1.2. Results

Table 1. Results of the emission of volatile organic compounds and volatile aldehydes inside a chamber containing a sample of the slat panel S

Identified chemical compound	[CAS]	Concentration of compounds in the chamber air [$\mu\text{g}/\text{m}^3$] ¹⁾	
		After 3 days	After 28 days
Volatile organic compounds C ₆ -C ₁₆			
2-butanone	[78-93-3]	16 ± 4	< 1
Ethyl acetate	[141-78-6]	72 ± 19	< 1
Butyl acetate	[123-86-4]	258 ± 67	91 ± 24
Methyl methacrylate	[80-62-6]	55 ± 14	12 ± 3
Methyl isobutyl ketone	[108-10-1]	42 ± 11	16 ± 4
Toluene	[108-88-3]	97 ± 25	29 ± 8
Cyclohexanone	[108-94-1]	87 ± 23	39 ± 10
Hexamethylcyclotrisiloxane	[541-05-9]	6 ± 2	< 1
Octamethylcyclotetrasiloxane	[556-67-2]	3 ± 1	< 1
TVOC (calculated as toluene equivalents)		454 ± 118	136 ± 35
*TVOC (calculated as toluene equivalents)		< 5	< 5
*TSVOC (calculated as toluene equivalents)		< 5	< 5
**Volatile carcinogenic compounds, cat. 1A and 1B		< 1	< 1
Volatile aldehydes C ₁ -C ₄			
Formaldehyde	[50-00-0]	< 1	< 1
Acetaldehyde	[75-07-0]	2 ± 1	< 1
Propionaldehyde	[123-38-6]	< 1	< 1
Butyraldehyde	[123-72-8]	8 ± 2	4 ± 1
*Test outside the scope of accreditation			
** Covered by Regulation (EC) No. 1272/2008 (listed in Annex H of the PN-EN 16516+A1:2020-12 standard), outside the scope of accreditation			
¹⁾ A standard solution produced by LGC Standards GmbH was used to quantify the C ₆ -C ₁₆ volatile organic compounds. The purity of the standard compounds is above 99.5%. Concentrations of ethyl acetate, butyl acetate, methyl isobutyl ketone, toluene and cyclohexanone were calculated in relation to the standard solutions of those compounds. Concentrations of the other identified chemical compounds were calculated in relation to the toluene standard. A standard solution produced by Sigma-Aldrich was used to quantify the C ₁ -C ₄ volatile aldehydes. The purity of the standard compounds is above 99%.			
The table shows the result together with the uncertainty level.			
The expanded uncertainty (U) is 26% for VOCs and 23% for volatile aldehydes. The expanded uncertainty was calculated with an expansion probability of approximately 95% and an expansion factor k = 2.			
The uncertainty of the test result may be influenced by additional factors unknown to the laboratory and related to the uncertainty of the test method. The level of uncertainty of the test method is given in ISO 16000-3:2022 and is not given in ISO 16000-6:2021.			
The uncertainty of the U results was determined on the basis of available data including: data on the accuracy of the measurement system used and experimentally data on repeatability.			

5. Conformity of the test results with applicable criteria

The results were assessed for conformity with the requirements of the Regulation of the Minister of Health and Welfare of 12 March 1996 on permissible concentrations and intensities of agents harmful to health emitted by building materials, devices and equipment in interiors intended for human occupancy (*Monitor Polski* of 1996, No. 19, item 231). The Regulation distinguishes between two types of interiors:

- category A - residential, intended for the permanent stay of patients in healthcare buildings and for the permanent stay of children and young people in educational buildings, as well as interiors intended for the storage of food products,
- category B - intended for the stay of people in public buildings other than those in category A, and auxiliary rooms in residential spaces.

Appendix 1 to the Regulation sets the permissible concentration for some of the identified chemical compounds. Their comparison against the values obtained by testing the slat panel S is shown in Table 2. For the other identified compounds, no permissible concentrations have been set.

Table 2. Comparison of the results against the requirements of the Regulation of the Ministry of Health and Welfare of 12 March 1996

Tested property	Test result (method according to 4.1.1.)	Evaluation criterion for category A / B interiors (Regulation of the Minister of Health and Welfare of 12 March 1996)	Conformity of the result with the criterion
After 28 days			
Ethyl acetate concentration	< 1 µg/m ³	< 100 / 150 µg/m ³	PASS
Butyl acetate concentration	91 µg/m ³	< 100 / 150 µg/m ³	PASS
Toluene concentration	29 µg/m ³	< 200 / 250 µg/m ³	PASS
Cyclohexanone concentration	39 µg/m ³	< 40 / 100 µg/m ³	PASS
Formaldehyde concentration	< 1 µg/m ³	< 50 / 100 µg/m ³	PASS
The parties agreed that as per the Regulation of the Minister of Health and Welfare of 12 March 1996 the simple pass/fail criterion will be used. This means that the pass limits are equal to the tolerances stated in the aforementioned document.			

The slat panel S meets the requirements of the national regulations on the release of hazardous substances specified in the Regulation of the Minister of Health and Welfare of 12 March 1996 and can be used without restriction in category A and category B interiors.

The evaluation of the results with regard to the requirements of the Model Administrative Provisions (*MVV TB 2024/1*), *Veröffentlichung der Muster-Verwaltungsvorschrift Technische Baubestimmungen (Ausgabe 2024/1)* is given in Table 3.

Table 3. Evaluation of the results with regard to the requirements of the Model Administrative Provisions (*MVV TB 2024/1*), *Veröffentlichung der Musterverwaltungsvorschrift Technische Baubestimmungen*, (Ausgabe 2024/1).

Tested property	Test result (method according to 4.1.1.)	Assessment criterion (MVV TB 2024/1, Ausgabe 2021/1)	Conformity of the result with the criterion
After 3 days			
Concentration of cat. 1A and 1B carcinogenic compounds	< 0.001 mg/m ³	< 0.01 mg/m ³	PASS
TVOC concentration	0.5 mg/m ³	< 10 mg/m ³	PASS
After 28 days			
Concentration of cat. 1A and 1B carcinogenic compounds	< 0.001 mg/m ³	< 0.001 mg/m ³	PASS
TVOC concentration	0.1 mg/m ³	< 1.0 mg/m ³	PASS
TSVOC concentration	< 0.005 mg/m ³	< 0.1 mg/m ³	PASS
TVOC concentration, without NIK	< 0.001 mg/m ³	< 0.1 mg/m ³	PASS
R-Wert	0.1	< 1	PASS
The parties agreed that as per the requirements of the Model Administrative Provisions (<i>MVV TB 2024/1</i>), <i>Veröffentlichung der Muster-Verwaltungsvorschrift Technische Baubestimmungen</i> (Ausgabe 2024/1), the simple pass/fail criterion will be used. This means that the pass limits are equal to the tolerances stated in the aforementioned document.			

The slat panel S meets the requirements of the Model Administrative Provisions (*MVV TB 2024/1*). *Veröffentlichung der Muster-Verwaltungsvorschrift Technische Baubestimmungen*, (Ausgabe 2024/1) in terms of the release of hazardous substances.

The evaluation of the results with regard to the requirements of *Arrêté du 19 avril 2011 relatif à l'étiquetage des produits de construction ou de revêtement de mur ou de sol et des peintures et vernis sur leurs émissions de polluants volatils* can be found in Table 4.

Table 4. Evaluation of the results with regard to the requirements of *Arrêté du 19 avril 2011 relatif à l'étiquetage des produits de construction ou de revêtement de mur ou de sol et des peintures et vernis sur leurs émissions de polluants volatils*.

Tested property	Test result after 28 days (method according to 4.1.1.)	Assessment criterion [µg/m ³]				Conformity of the result with the criterion
		C	B	A	A+	
Formaldehyde concentration	< 1 µg/m ³	> 120	< 120	< 60	< 10	Class A+
Acetaldehyde concentration	< 1 µg/m ³	> 400	< 400	< 300	< 200	Class A+
Toluene concentration	29 µg/m ³	> 600	< 600	< 450	< 300	Class A+
Tetrachloroethylene concentration	< 1 µg/m ³	> 500	< 500	< 350	< 250	Class A+
Xylene concentration	< 1 µg/m ³	> 400	< 400	< 300	< 200	Class A+
1,2,4-trimethylbenzene concentration	< 1 µg/m ³	> 2000	< 2000	< 1500	< 1000	Class A+
1,4-dichlorobenzene concentration	< 1 µg/m ³	> 120	< 120	< 90	< 60	Class A+
Ethylbenzene concentration	< 1 µg/m ³	> 1500	< 1500	< 1000	< 750	Class A+
2-butoxyethanol concentration	< 1 µg/m ³	> 2000	< 2000	< 1500	< 1000	Class A+
Styrene concentration	< 1 µg/m ³	> 500	< 500	< 350	< 250	Class A+
TVOC	136 µg/m ³	> 2000	< 2000	< 1500	< 1000	Class A+
The parties agreed that as per <i>Arrêté du 19 avril 2011 relatif à l'étiquetage des produits de construction ou de revêtement de mur ou de sol et des peintures et vernis sur leurs émissions de polluants volatils</i> , the simple pass/fail criterion will be used. This means that the pass limits are equal to the tolerances stated in the aforementioned document.						

The slat panel S meets the requirements of Arrêté du 19 avril 2011 relatif à l'étiquetage des produits de construction ou de revêtement de mur ou de sol et des peintures et vernis sur leurs émissions de polluants volatils regarding the release of class A+ hazardous substances.

The evaluation of the conformity of the test result with the criteria refers to the tested sample. The risk factors associated with the conformity assessment carried out are as follows:

- measurement uncertainty as presented in point 4 of this report,
- uncertainty of the test method as given in the ISO 16000-3:2022 test standard and not given in the ISO 16000-6:2021 test standard.

6. Disclaimer

The Testing Laboratory declares that the test results refer exclusively to the sample received.

The laboratory takes the responsibility for all information presented in this report and for all stages of the testing process, except for information provided by the Client and stages of the process performed by or under the responsibility of the Client (e.g. sample installation). Information provided by the Client and activities performed by the Client are clearly marked as such.

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