TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague
Akreditovaná zkušební laboratoř, Autorizovaná osoba, Notifikovaná osoba, Certifikační orgán, Inspekční orgán
Accredited Testing Laboratory, Authorized Body, Notified Body, Certification Body, Inspection Body
Odštěpný závod ZKUŠEBNÍ ÚSTAV LEHKÉHO PRŮMYSLU
Branch Office Test Institute of the Light Industries
Nemanická 441/8, 370 10 České Budějovice

Certification Body

issues

REPORT

of the product certification

certification scheme 1a according to the EN ISO/IEC 17067 including testing of product samples

No.: 100-069005

Trade name:

Cement fiber board CEMVIN

Applicant:

CEMVIN s.r.o.

INo:	05604842
adress:	Černousy 62 463 73 Černousy Czech Republic
order:	Z100250279

Number of protocol pages incl. the title one: 7

Person responsible for content and correctness of this Protocol:

TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p. Certifikační orgán ZÚS

Martina Mrhalová, M.Sc.
Head Evaluator

České Budějovice, 23th November 2025

1. General data

1.1 Data about the applicant

- CEMVIN s.r.o., Černousy 62, 463 73 Černousy, Czech Republic
- INo.: 05604842

1.2 Data about product*)

*) – *The contracting authority is responsible for the representativeness of the samples and their description (including information on the manufacturer / importer).*

Evidence Number: *VZ100250257 (502)*

Sample: **Cement fiber board CEMVIN**

Data supplied by the customer: --

1.3 Data list submitted by the applicant for the product certification

- Application from 24. 09. 2025

1.4 List of other documents used by the product certification

1.5 Technical specification, technical standards relating to the product certification

- Decree No. 43/2025 Coll., on the determination of hygienic limits of chemical, physical and biological indicators for the indoor environment of living rooms of certain buildings
- EN 16516:2017+A1:2020, Construction products: Assessment of release of dangerous substances – Determination of emissions into indoor air
- AgBB scheme:
  Committee of health-related evaluation of building products (AgBB) – September 2024:

  Requirements for the indoor air quality in buildings: Health-related evaluation procedure for emission of volatile organic compounds (VVOC, VOC and SVOC)

2. Result of data review submitted by the applicant

- Data submitted were checked on 24. 09. 2025.

3. Product checking

3.1. Technical requirements

The product was evaluated according to the Decree No. 43/2025 Coll., on the determination of hygienic limits of chemical, physical and biological indicators for the indoor environment of living rooms of certain buildings and to AgBB scheme (2024), **in monitored properties**:

- EN 16516:2017+A1:2020, Construction products: Assessment of release of dangerous substances – Determination of emissions into indoor air
- EN 717-1, Wood-based panels – Determination of formaldehyde release - Part 1: Formaldehyde emission by the chamber method

- Preparation and sampling based on EN ISO 16000-11:2024: Indoor air – Part 11: Determination of the emission of volatile organic compound from building products and furnishing – Sampling, storage of samples and preparation of test specimens.
- Sample analysis based on 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, on ISO 16000-3:2022: Indoor air — Part 3: Determination of formaldehyde and other carbonyl compounds in indoor and test chamber air — Active sampling method and on EN ISO 16000-10:2006: Indoor air – Part 10: Determination of the emission of volatile organic compounds from building products and furnishing – Emission test cell method.

3.2. List of Test and checking reports:

- The Test Report No. 100-069004 dated 2025-11-20, issued by TZÚS Prague, s.p. – Branch Office ZÚLP Test Institute of Light Industries České Budějovice

3.3. Evaluation of test results and product checking

Determination of volatile organic substances:

- **Determination of volatile organic compound (VOC) emissions**

Centre of test was determination of VOC (volatile organic substances) specific emissions released from surface of the building material sample tested. The test was carried out by using a testing cell that was put on building material sample surface tested by a constant temperature, relative humidity and specific air flow. Total values of VOC were measured on gas chromatograph GC-MS using thermodesorption by ISO 16000-6. Acetaldehyde is determined using liquid chromatography (ISO 16000-3).

- **Determination of formaldehyde emissions**

The test specimen is placed in a climate chamber with controlled environmental conditions. Formaldehyde released from the surface of the material is continuously removed from the chamber by a controlled air flow. Once stabilized, the stable concentration of formaldehyde in the air at the chamber outlet is determined. Formaldehyde is determined spectrophotometrically.

3.3.1 Evaluation according to the Decree No. 43/2025 Coll., on the determination of hygienic limits of chemical, physical and biological indicators for the indoor environment of living rooms of certain buildings

The measured values of the emissions of volatile organic substances on "Day 3" were compared with the limit values of No. 43/2025 Coll. on the determination of hygienic limits of chemical, physical and biological indicators for the indoor environment of living rooms of certain buildings.

On "Day 3" emissions of carcinogenic substances 1A and 1B according to Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures were not detected.

Table 1: Evaluation of test results, sample No **VZ100250257 (502)**

Sample No: VZ100250257 (502)						
Monitored property	**CAS No.**	**Units**	**Test result Day 3**	**Test result Day 28**	**Required/ declared level**	**Evaluation**
VOC – volatile organic compounds individually according to Decree 43/2025 Coll:						
Formaldehyde	50-00-0	µg / m³	<2	--	≤ 60	compliant [2]
Acetaldehyde	75-07-0	µg / m³	<10	--	-	-
Benzene	71-43-2	µg / m³	n.d. [1]	--	≤ 7	compliant [2]
Toluene	108-88-3	µg / m³	n.d. [1]	--	≤ 300	compliant [2]
Sum of xylenes	1330-20-7	µg / m³	n.d. [1]	--	≤ 200	compliant [2]
Styrene	100-42-5	µg / m³	n.d. [1]	--	≤ 40	compliant [2]
Ethylbenzene	100-41-4	µg / m³	n.d. [1]	--	≤ 200	compliant [2]
Trichlorethylene	79-01-6	µg / m³	n.d. [1]	--	≤ 150	compliant [2]
Tetrachlorethylene	127-18-4	µg / m³	n.d. [1]	--	≤ 150	compliant [2]
2-Ethylhexanol	104-76-7	µg / m³	n.d. [1]	--	≤ 70 [5]	compliant [2]
Naphalene	91-20-3	µg / m³	n.d. [1]	--	≤ 10	compliant [2]
Limonene	5989-27-5	µg / m³	n.d. [1]	--	≤ 450	compliant [2]
Alpha – pinene	7785-26-4	µg / m³	n.d. [1]	--	≤ 450	compliant [2]
VOC – other volatile organic substances, sum		µg/m³	n.d. [1]	--	-	-
TVOC – total volatile organic substances, sum of volatile organic substances according to Decree 43/2025 Coll. and other volatile substances:		µg/m³	< 10	--	≤ 10 000	compliant [3]
TVOC – total volatile organic substances, sum of volatile organic substances according to Decree 43/2025 Coll. and other volatile substances:		µg/m³	< 10	--	≤ 1 000	compliant [4]
SVOC (C_{16}-C_{23}) – semi-volatile organic substances		µg/m³	n.d. [1]	--	-	-
Volatile organic carcinogens 1A and 1B – EU Regulation 1272/2008 (Annex VI, Part 3)		µg/m³	n.d. [1]	--	-	-

Indices table 1

1) "n.d." – not detected, i.e. no substances of the relevant category were detected. Detection limit: 1 µg/m³.

2) Measured values of emissions of volatile organic compounds "day 3" were compared with the limit values of Decree No. 43/2025 Coll., Annex 2.

3) The sum of the emissions of all volatile organic compounds (TVOC) was compared with the limit value for day 3 given in the document "Committee of health-related evaluation of building products (AgBB) – September 2024: Requirements for the indoor air quality in buildings: Health-related evaluation procedure for emission of volatile organic compounds (VVOC, VOC and SVOC)".

4) The sum of the emissions of all volatile organic compounds (TVOCs) was compared with the limit value for day 28 as given in the document "Committee of health-related evaluation of building products (AgBB) – September 2024: Requirements for the indoor air quality in buildings: Health-related evaluation procedure for emission of volatile organic compounds (VVOC, VOC and SVOC)".

5) At the same time, the sum of other odour-causing higher aliphatic alcohols (C_8 – C_{18}) shall not exceed 70 µg/m³.

'<' The symbol 'less than' means less than the detection limit of the method.

3.3.2 Evaluation according to EN 16516:2017 + A1:2020 and AgBB scheme

Table 2: Evaluation of test results, Sample No **VZ100250257 (502)**

Test parameters	Requirements		Test results				Evaluation
	3 days	28 days	3 days		28 days		
	mg/m³		µg/m³	mg/m³	µg/m³	mg/m³	
TVOC spec [1]	≤ 10	≤ 1.0	< 10	< 0.010	--	--	*met*
∑ SVOC [2]	-	≤ 0.1	n.d.[7]	n.d.[7]	--	--	*met*
R value[3]	-	≤ 1	< 1				*met*
∑ VOC without LCI [4]	-	≤ 0.1	n.d.[7]	n.d.[7]	--	--	N/A [8]
∑ Cancerogenes [5]	≤ 0.01	≤ 0.001	n.d.[7]	n.d.[7]	--	--	*met*
Formaldehyde	-	≤ 0.120	< 2	< 0.002	--	--	*met*
Acetaldehyde	-	≤ 0.300	< 10	< 0.010			*met*
∑ VVOC [6]	-	-	n.d.[7]	n.d.[7]	--	--	N/A [8]

Indices table 2 and table 3

1 TVOCspec (TVOC = total volatile organic compounds)

Sum of all compounds detected ≥ 0.005 mg/m' [substance-specific (target substances / LCI substances) and using toluene equivalent (non-target substances)] within the retention range C_6-C_{16} as well as carcinogenic substances of categories 1A und 1B ≤ 0.001 mg/m³.

2 SVOC = semi volatile organic compounds

3 R-value = total of all R_i-values ($R_i = \Sigma C_i / LCI_i$)

4 LCI = Lowest Concentration of Interest

5 Carcinogen substances of categories 1A, 1B according to the EU classification with reference to Annex VI of Regulation (EC) No. 1272/2008

6 VVOC = very volatile organic compounds

[7] n.d. = not detected, i.e. no substances of the corresponding category have been detected. Detection limit: 1 µg/m³

[8] Without evaluation

[9] Derivation of EU-LCI values (read-across)

Table 3: Test results, concentrations of individual components: Sample No **VZ100250257 (502)**

Sample: VZ100250257 (502)					
Substance	**CAS No.**	**Test cell concentration [µg / m³]**		**LCI value [µg / m³]**	**R_i-value 3 days**
		3 days	**28 days**		
Formaldehyde (Carc. 1B) (WOC) [5 6]	50-00-0	< 2	--	100	--
Acetaldehyde (Carc. 1B) (VVOC) [5 6]	75-07-0	< 10	--	300	--
Acrolein (VVOC) [6]	107-02-8*	n.d.[7]	--	14	--
Toluene	108-88-3	n.d.[7]	--	2900	--
SVOC [2]	--	n.d.[7]	--	--	--
TSVOC (Sum of SVOC [2]*)*	--	--	--	--	--
CMR substances 1A & 1B [5]	--	n.d.[7]	--	--	--
Sum of CMR substances 1A & 1B [5]	--	--	--	--	--
Rest (VOCs without LCI, not identified VOCs, C_6-C_{16})	--	n.d.[7]	--	--	--
TVOCspec.[1]	--	< 10	--	--	< 1

4. Conclusion

The submitted sample of **„Cement fiber board CEMVIN" complied** in the monitored properties with the requirements of the decree 43/2025 Coll., on the determination of hygienic limits of chemical, physical and biological indicators for the indoor environment of living rooms of certain buildings:

- Annex 2. Limit concentrations of chemical indicators in the indoor environment of the living rooms of buildings (benzene. toluene. sum of xylenes. styrene. ethylbenzene. formaldehyde. acetaldehyde. trichloroethene. tetrachloroethene. 2-ethylhexanol. naphthalene. limonene. alpha-pinene).

The submitted sample of the PUR foam **'ULTRALOK 45'** complied in the properties monitored with the requirements of the AgBB scheme: Ausschuss zur gesundheitlichen Bewertung von Bauprodukten AgBB – September 2024: Anforderungen an die Innenraumluftqualität in Gebäuden: Gesundheitliche Bewertung der Emissionen von flüchtigen organischen Verbindungen (VVOC, VOC und SVOC) aus Bauprodukten.

The product is suitable for indoor use.

The findings made on the representative also apply to the other members of the product group under assessment

Findings and conclusions given in this protocol are valid provided that no change of conditions occurs which the conformity checking was carried out under and if this change can influence products properties (e.g. change of technical standards, technical specification, manufacturing technology, input raw materials and manufacturing equipment).

- **END OF THE PROTOCOL ON PRODUCT CERTIFICATION RESULT** -