**INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a. s.**
**třída Tomáše Bati 299, Louky, 763 02 Zlín**
**CSI Division – Centre of Civil Engineering**
Construction Testing Laboratory Zlín, K Cihelně 304, Louky, 763 02 Zlín

Testing laboratory No. 1007.1 accredited by ČIA according to ČSN EN ISO/IEC 17025:2018



# ACCREDITED LABORATORY TEST REPORT No. 415600368-01

This document replaces the protokol No. 415600368-01 dated 20. 4. 2022

| | |
|---|---|
| **Client:** | GLINMET Sp. z o.o.<br>NIP: 574-206-89-41 |
| **Address:** | ul. Rolnicza 13<br>42-160 Krzepice, Poland |
| **Subject of the test:** | Brise - solleil |
| **Sample received on:** | 25.01.2022 |
| **Report elaborated by:** | Ing. Jindřich Mrlík |
| **Place and date of issue:** | Zlín, 10. 1. 2024 |
| **Annexes:** | Annex No. 1: Photographs |

AKREDITOVANÁ ZKUŠEBNÍ LABORATOŘ č. 1007.1 INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a. s.

Ing. Jiří Růžička
Head of Construction Testing Laboratory Zlín

Ing. Petra Hrdinová
Head of Accredited Testing Laboratory

***Note: The results given in this Test Report apply only to the sample tested by our laboratory!***
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**Test subject:**

**Table No. I - Description and identification of test subject**

| ITC's ident. number | Identification of the test Subject/sample by client |
|---|---|
| 415600368/01 | fixed louvres Glinmet; thickness of louvres 0,7 mm, photographs see annex 1, picture No. 1 and 2 |
| 415600368/02 | fixed louvres Glinmet; thickness of louvres 0,5 mm, photographs see annex 1, picture No. 3 and 4 |

**Identification group of product :**
Brise – soleil: Shading louvres are used on the envelope of the bilding, eventualy on the place of open to ventilation equipment et al. The product is not known as a standard group susbject. The producer demands the test Determination of resistance to wind load, see below.

**Mode of operation:** the louvres are fixed anchored to the building structure.

**Intended use**: the product has shielding and ventilation functions, optical separation of space

**Glinmet louvres** are made of galvanized steel sheet*) without further specification. See Fig.1 for louvres shape.

**Supporting structure** is anchored in the building according to the use of the product. The louvres are anchored according to the requirements of variants I - IV at a spacing of (105; 115; 125; 135) mm. Anchoring is done with a self-drilling screws 4.8 x 19.

*) change based on clarification of the description supplied by the customer

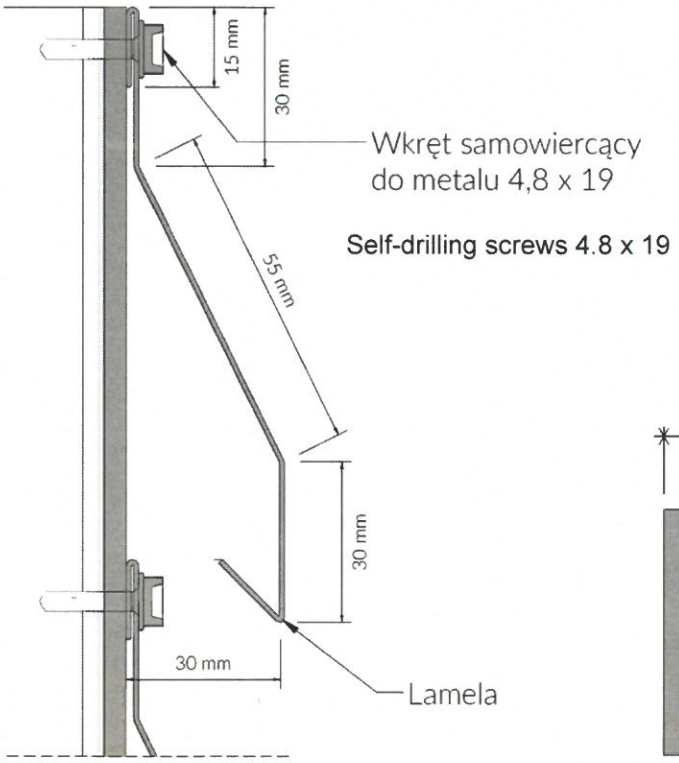



**Fig. 1: Louvres Glinmet**

**Table No. II - Completion of the sample description by the testing laboratory**

| | |
|---|---|
| Specimens size (m) | Hole diameter (width x height): 1.5 x 1; see Fig. 3. Slat length 1.5 m. |
| Design | Test specimens variant III: Slat spacing 125 mm. Test frame made of closed steel profile of square cross-section (50 x 50) mm. An L-profile (20 x 50) mm is anchored inside the test frame opening, which is used to anchor the slats. See Fig. 2 |

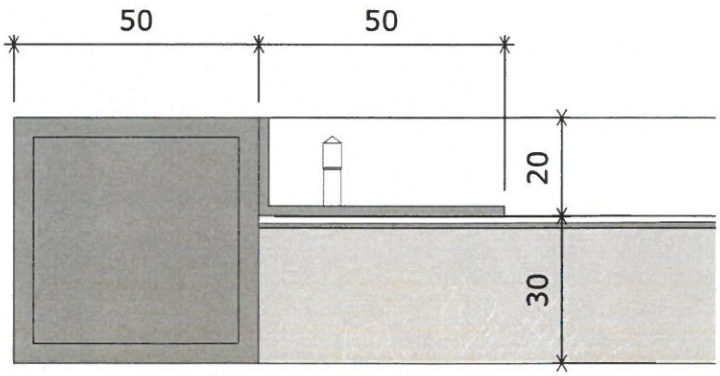



**Fig.. 2: Plan section of the test frame with the specimen**

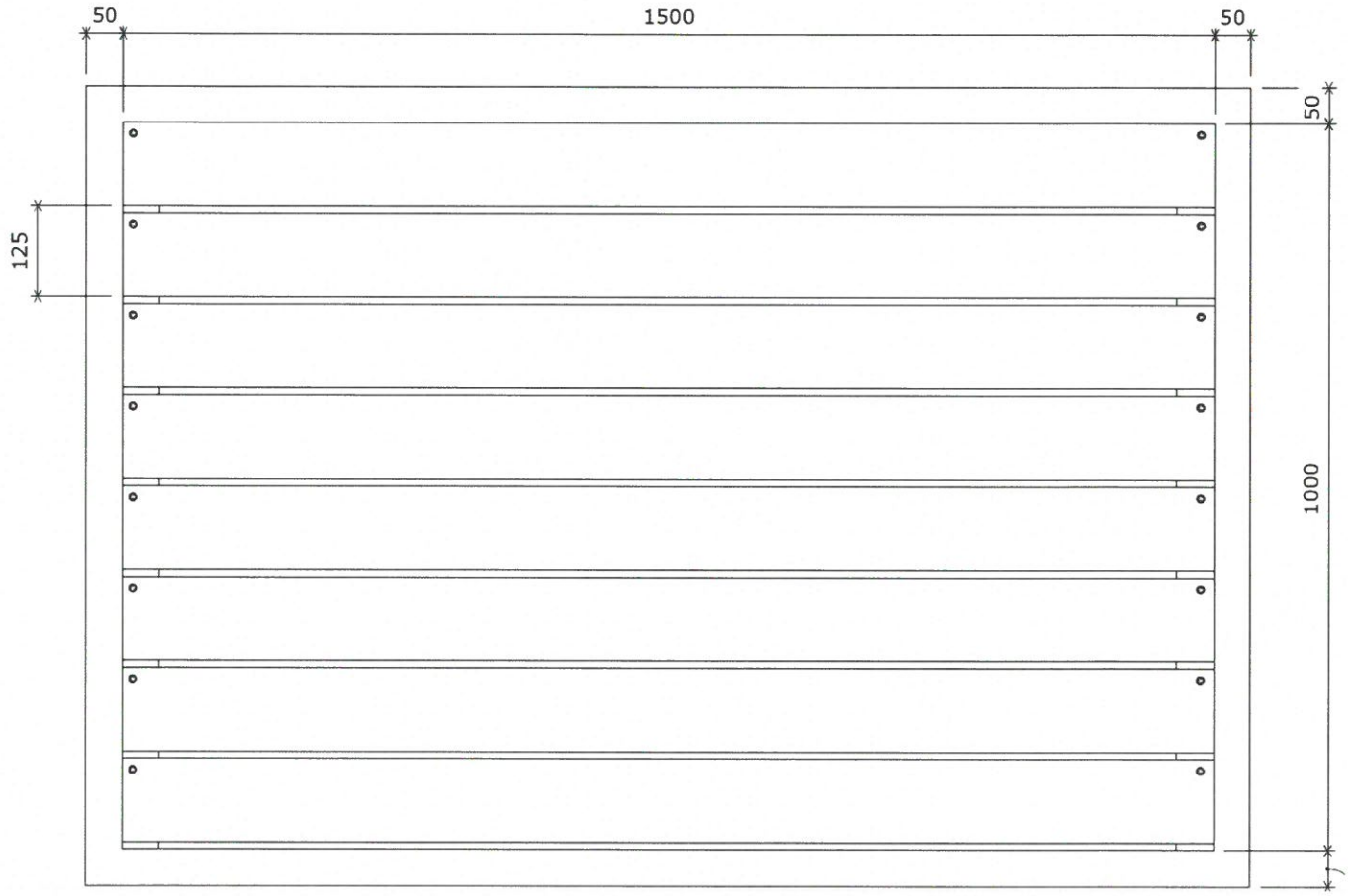



**Fig. 3: Front wiew of the test specimen**

**Sampling method used:**
The test specimens were collected and supplied to the laboratory by the client. The Laboratory is not responsible for this way of sampling.

**Work requested:**
Measurement of properties according to standard.
Determination of resistance to wind load.

**Testing method used:**
ČSN EN 12179 Curtain walling – Resistance to wind load –Test method
Classificatio according to related regulations:
ČSN EN 13116 Curtain walling – Resistance to wind load – Performance requirement
ČSN EN 13659 Shutters and external venetian blinds – Performance requirements including safety

**Test conditions:**
Determination of resistance to wind load - tested on 10.02.2022.
- Deviation from the specification of the test and classification method: It is not possible to classify the front relative deflection. The louvres are not frame elements according to ČSN EN 12179.

*The laboratory is not responsible for information received from customer, which could have influence on the validity of the results. Further information required by the standard/standards and not given in this Test Report are available at a request at the Laboratory.*

**Testing laboratory:**
Test no. 1 - Workplace no. 1 - K Cihelně 304, 764 32 Zlín - Louky.

**Test results:**
The test results are shown in the following tables

**Table III - Determination of resistance to wind loads**

| | |
|---|---|
| Test at design wind load – positive pressure = +2000 Pa | Specimen No. 415600368/01[1)] |
| Free length of blind louvre | 1400 mm |
| Frontal deflection at 25% positive design load +500 Pa | 11 mm |
| Frontal deflection at 50 % positive design load +1000 Pa | 23 mm |
| Frontal deflection at 75 % positive design load +1500 Pa | 34 mm |
| Frontal deflection at 100 % positive design load +2000 Pa | 48 mm |
| Relative frontal deflection at +2000 Pa | 0,034 |
| Residual deformation after the load | 1 mm |
| | |
| Test at increased wind load – positive pressure = +3000 Pa | 97 mm |
| Condition of the specimen after the increased load test: Blind louvre not released, deformation see picture No. 1; 2 in annex No.1 | |

**Table IV - Determination of resistance to wind loads**

| | |
|---|---|
| Test at design wind load – negative pressure (suction) = -1600 Pa | Specimen No. 415600368/02[1)] |
| Free length of blind louvre | 1400 mm |
| Frontal deflection at 25 % negative design load -400 Pa | 19 mm |
| Frontal deflection at 50 % negative design load -800 Pa | 30 mm |
| Frontal deflection at 75 % negative design load -1200 Pa | 43 mm |
| Frontal deflection at 100% negative design load -1600 Pa | 54 mm |
| Relative frontal deflection at -1600 Pa | 0,039 |
| Residual deformation after the load (1200 / 1600) Pa | (1 / 2) mm |
| | |
| Test at increased wind load – negative pressure = -2400 Pa | 77 mm |
| Condition of the specimen after the increased load test: Blind louvre not released, deformation 6 mm | |

**Table V - Determination of resistance to wind loads**

| | |
|---|---|
| Test at design wind load – positive pressure = +1600 Pa | Specimen No. 415600368/02[1)] |
| Free length of blind louvre | 1400 mm |
| Frontal deflection at 25 % positive design load 400 Pa | 15 mm |
| Frontal deflection at 50 % positive design load 800 Pa | 31 mm |
| Frontal deflection at 75 % positive design load 1200 Pa | 51 mm |
| Frontal deflection at 100 % positive design load 1600 Pa | 98 mm |
| Relative frontal deflection at 1600 Pa | 0,070 |
| Residual deformation after the load (400 / 800 / 1200 / 1600) Pa | (1/ 2/ 4/ 41) mm |
| The results of the specimen deflections are affected after the previous suction load | |
| | |
| Test at increased wind load – positive pressure = +2400 Pa | deflection not measured |
| Condition of the specimen after the increased load test: Blind louvre not released, deformation see picture No. 3; 4 in annex No.1 | |

[1)] Measurement uncertainty can not be quantified; pressure load ± 2%. The expanded uncertainty is given for a coefficient of expansion k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

**Table VI - Summary of tests and evaluations**

| Resistance to wind loads | Test procedure standard | Requirement standard | Findings for the test specimens[2)] |
|---|---|---|---|
| The ability of the specimen to withstand the design positive pressure load<br>The ability of the specimen to withstand the design suction load | ČSN EN 12179 | ČSN EN 13116<br>use as the open infill | Sp. No. 415600368/01<br>**Conform +2000 Pa**<br>Sp. No. 415600368/02<br>**Conform -1200 Pa** |
| The ability of the sample to withstand pressure load 600 Pa<br>The ability of the sample to withstand suction load 600 Pa | | ČSN EN 13659<br>use as fixed external venetian blinds | Sp. No. 415600368/01<br>**Class 6**<br>Sp. No. 415600368/02<br>**Class 6** |

[2)] Used decision rule:
In accordance with ILAC-G08 - Binary statement for the simple acceptance rule (measurement uncertainty is not taken into consideration for the evaluation.

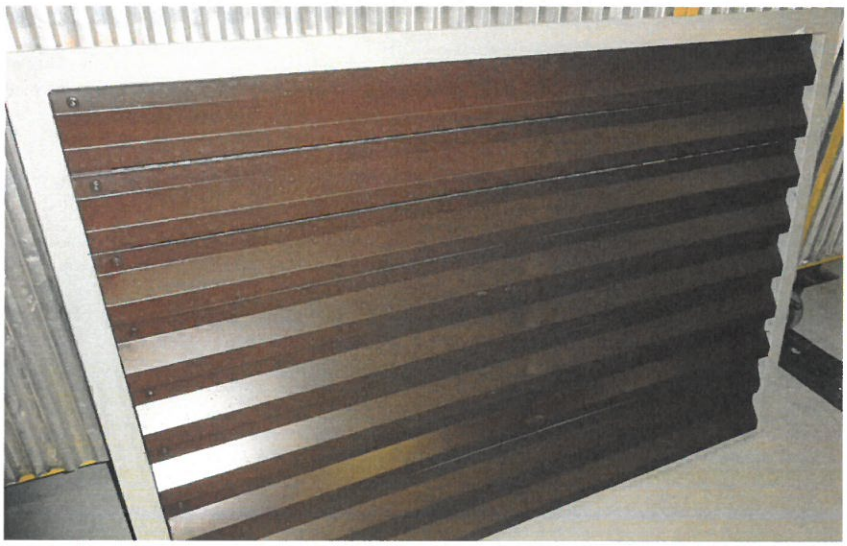
**Evaluated by:** Ing. Jindřich Mrlík

..... Test report end .....

**Annex No. 1 to the test report No. 415600368-01**



Picture No. 1: Specimen No. 415600368/01 before test



Picture No. 2: Specimen No. 415600368/01 after test

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Picture No. 3: Specimen No. 415600368/02 after test – view from the interior



Picture No. 4: Specimen 415600368/02 after test – exterior view

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