DEPARTMENT OF BUILDING ELEMENTS ENGINEERING
CONSTRUCTION ELEMENTS LABORATORY

TEST REPORT

No. LZE00-01901/19/R37NZE

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

INFORMATION ABOUT THE PRODUCT

Research object:	**PVC roof soffit, incl:**
name, description, condition and identification	**2 models of the roof soffit on a frame made of wooden battens installed at a distance of 40 cm SV-07 and SV-08 profiles mounted alternately to the wind load in the direction of pressure and suction**
	2 models of the SV-07 soffit soffit on a frame made of wooden battens mounted at a distance of 40 cm for impact with a hard and soft heavy body
	2 models of soffit soffit SV-07 soffit on a frame made of wooden battens mounted with a spacing of 80 cm for impact with a hard and soft heavy body
	2 models of the roof soffit on a frame made of wooden battens installed with a spacing of 80 cm SV-07 and SV-08 profiles mounted alternately to the wind load in the direction of pressure and suction
	models of the SV-08 soffit soffit on a frame made of wooden battens installed with a spacing of 80 cm for impact with a hard and soft heavy body
	2 models of the SV-08 soffit soffit on a frame made of wooden battens mounted with a spacing of 80 cm for impact with a hard and soft heavy body
Date of acceptance / collection of the test object:	03-02-2020/27-01-2020
Acceptance report number:	LZE00-01901/19/R37NZE day of: 03.02.2020 year
Test object collection protocol number:	1/2020 day of: 27.01.2020 year
Procedure of acceptance / collection of the research object:	PZ ZLB 18 - procedure for acceptance of the test object by the laboratory LZE

Research information

Test start date: 02-03-2020 year

Test completion date: 16-03-2020 year

Other research information: The study was conducted in the LZE laboratory at ul. Ksawerów 21, 02-656 Warsaw; on the wind load resistance stand and the climatic chamber with the current calibration status that meets the requirements of the procedures.

Test methods:

ITB's own methods Own research methods developed on the basis of the existing Polish Standards and arrangements with the Principal:

- Wind load resistance: +1600/-1600 [Pa],
- Hitting a hard body in negative and positive temperature - energy: 10 [Nm],
- Hitting a heavy soft body in negative and positive temperature - energy: 500 [Nm].

1. Scope of research

The scope of the research included checking:
- hard body impact resistance 1,0 kg at -20 °C
- resistance to hitting with a hard body 1,0 kg at the temperature of + 60 ÷ 70 °C
- resistance to impact with a soft, heavy body 50,0 kg at the temperature of -20 °C
- resistance to impact with a heavy soft body 50,0 kg at the temperature of + 60 ÷ 70 °C
- resistance to wind load in the direction of pressure and suction (+1600/-1600 Pa).

The uncertainty has been determined from the available data including the accuracy of the measurement system used. The test results and their uncertainty refer only to the tested samples. The uncertainty value cannot be assigned directly to the level of the product's properties, because the laboratory does not know about the variability of its population, but only about the tested sample.

Research staff:
- eng. Daniel Kuna, Building Research Institute, Building Elements Laboratory, LZE.

Measuring apparatus:
- wind load resistance station: LL-195-6E, not subject to calibration, including: pressure: LL-195-3P calibrated on May 25, 2019, flow LL-195-4P calibrated on June 22, 2016;
- LZE-023 thermohygrometer, calibrated on November 22, 2018;
- LL-365 climatic chamber, including: temperature range LL-365-2P calibrated on March 29, 2019;
- 1.0 kg steel ball LL-231, calibrated on March 9, 2020;
- soft, heavy body, 50.0 kg LL-307, calibrated on April 5, 2019.

2. Test materials (sample identification)

A PVC roof soffit (6 pieces) was used for the tests, including:

- 2 models of the SV-08 soffit on a frame made of mounted wooden battens at a distance of 80 centimeters;
- 2 models of the SV-07 soffit soffit on a frame made of mounted wooden battens at a distance of 40 centimeters;
- 2 models of the roof soffit on a frame made of wooden battens installed at a distance of 80 cm SV-07 and SV-08 profiles mounted alternately FOR SUCTION / PARCIA

Sample manufacturer: IOOO Profile VOX

Place of download: Repubic of Bielarus, 225003 Brest Region, Brest District, Telminsky s/s 7

Number of samples: 6

Date of download / production: January 2020 / December 2019 year.

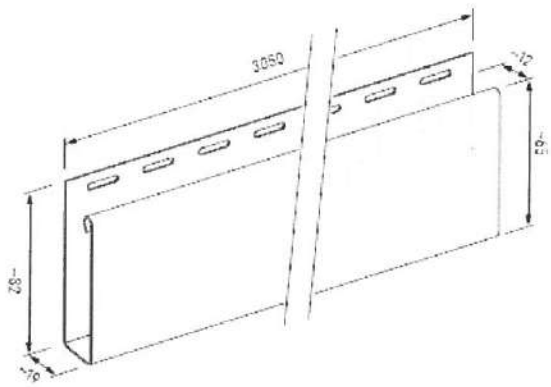


Figure 1. A fragment of a soffit finishing strip (drawing provided by the Client)

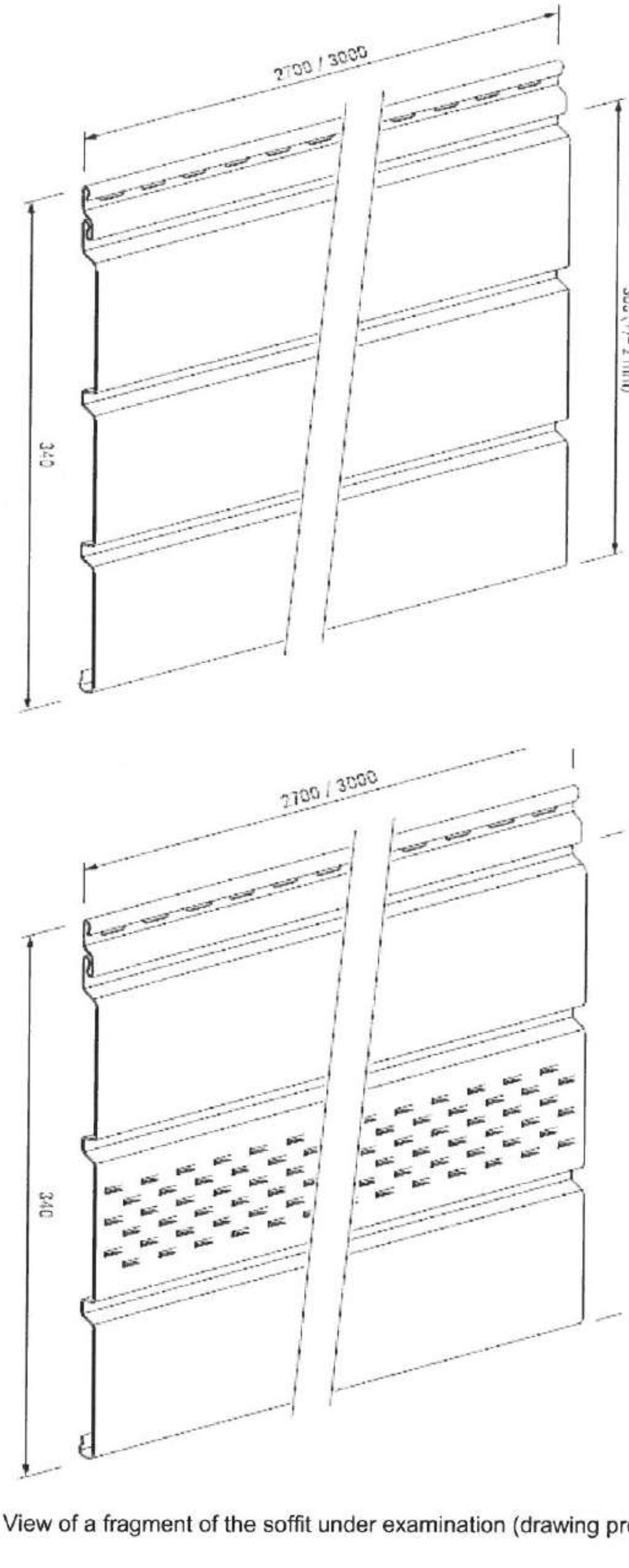
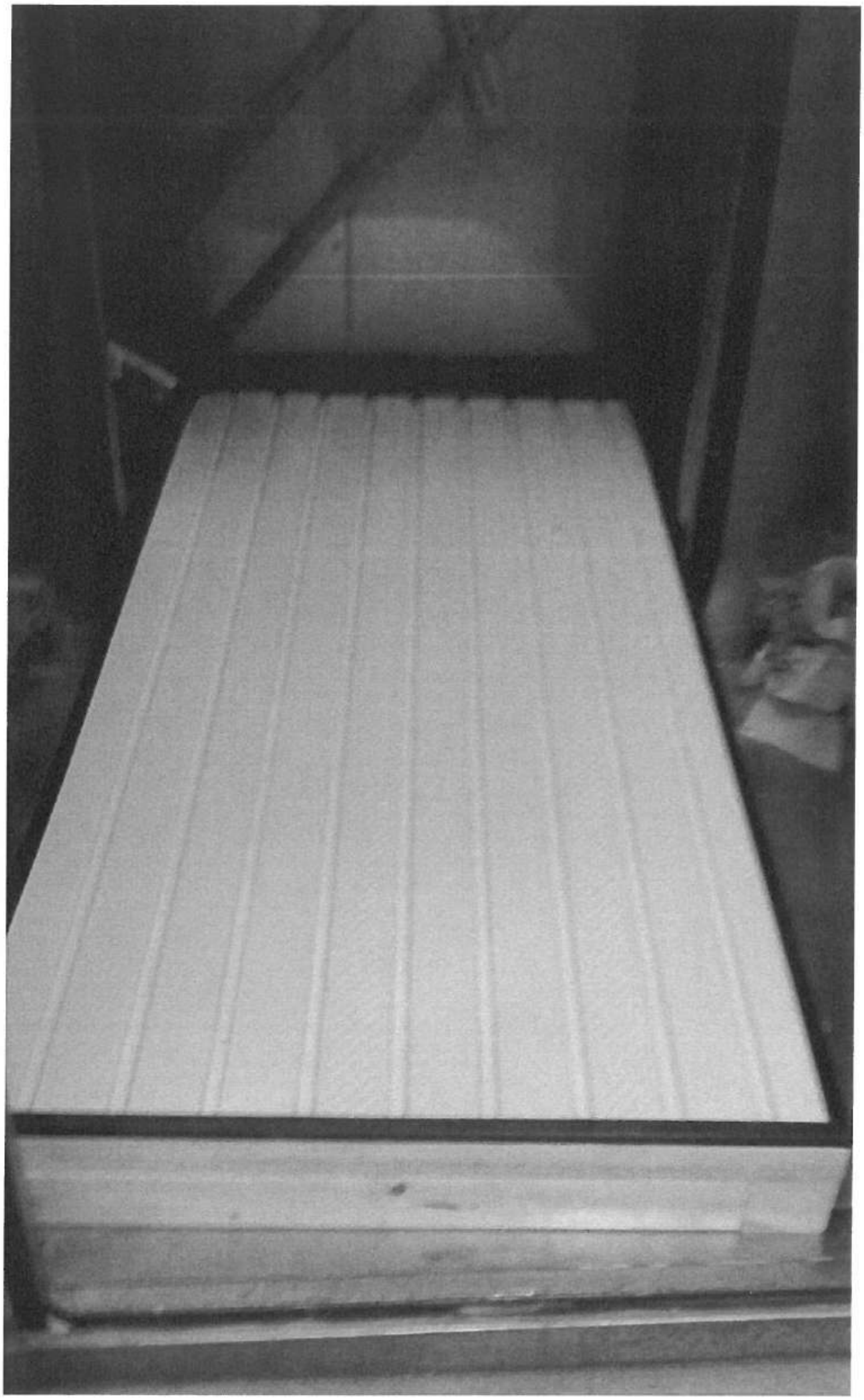


Figure 2. View of a fragment of the soffit under examination (drawing provided by the Client)

PHOTOGRAPHIC DOCUMENTATION



Phot. 1. View of the soffit tested in a climatic chamber (photo by LZE)

3. Research methods and results.

The uncertainty has been determined from the available data including the accuracy of the measurement system used. Due to the nature of the research, the research object and the lack of literature data, no information is available on the precision of the method. The uncertainty value relates to single test results. The uncertainty value cannot be assigned directly to the level of the properties of a given product, because the laboratory does not know about the variability of its population, but only about the tested sample.
The samples were conditioned under the conditions specified by the Principal 24 hours before the testand during tests, i.e. at a temperature of -20 ° C, + 60 ÷ 70 ° C, and in laboratory conditions + 20 °C, assembled by the Customer. Including: 3 models of the SV-07 soffit soffit on a frame made of wooden battens installed with a spacing of 40 centimeters, and 3 models of the SV-08 soffit on a frame made of wooden battens installed with a spacing of 80 centimeters. Then, at a temperature of -20 ° C, + 60 ÷ 70 ° C, and in laboratory conditions + 20 ° C, it was tested.

3.1 Tests of resistance to impact with a hard body 1,0 kg at negative temperature - ITB own methods

Tab. 1.1. Results of the impact resistance tests with a steel ball of 1,0 kg at the temperature of -20°C

	Hit number	Impact energy [Nm]	The nature of the destruction
I a sample Model SV-07 on a frame made of wooden laths mounted with a spacing of 40 centimeters	**1**	8	No damage
	2	8	No damage
	3	8	No damage
	4	8	No damage
	5	8	No damage
	6	8	No damage
	7	8	No damage
	8	8	No damage
	9	8	No damage
	10	8	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of measuring the mass of 0.5 kg of the hard body (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 5g.

Tab. 1.2. Results of the impact resistance tests with a steel ball of 1,0 kg at the temperature of -20°C

	Hit number	Impact energy [Nm]	The nature of the destruction
I a sample Model SV-08 on a frame made of wooden battens installed with a spacing of 80 cen	**1**	10	No damage
	2	10	No damage
	3	10	No damage
	4	10	No damage
	5	10	No damage
	6	10	No damage
	7	10	No damage
	8	10	No damage
	9	10	No damage
	10	10	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of measuring the mass of 0.5 kg of the hard body (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 5g.

Tab. 1.3. Results of the impact resistance tests with a steel ball of 1,0 kg at the temperature of -20 °C

	Hit number	Energia uderzenia [Nm]	The nature of the destruction
I a sample Model SV-07 on a frame made of wooden battens mounted with a spacing of 40 cen	**1**	10	No damage
	2	10	No damage
	3	10	No damage
	4	10	No damage
	5	10	No damage
	6	10	No damage
	7	10	No damage
	8	10	No damage
	9	10	No damage
	10	10	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of measuring the mass of 0.5 kg of the hard body (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 5g. Expanded uncertainty of temperature measurement -20 °C (related to the accuracy of the devices used), with a confidence level of 95% and with a coverage factor k = 2, Up = 0.1 °C.

Tab. 1.4. Results of the impact resistance tests with a steel ball of 1.0 kg at the temperature of -20 °C

	Hit number	Impact energy [Nm]	The nature of the destruction
I a sample Model SV-08 on a frame made of wooden battens installed with a spacing of 80 cen	**1**	10	No damage
	2	10	No damage
	3	10	No damage
	4	10	No damage
	5	10	No damage
	6	10	No damage
	7	10	No damage
	8	10	No damage
	9	10	No damage
	10	10	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of measuring the mass of 0.5 kg of the hard body (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 5g. Expanded uncertainty of temperature measurement -20 °C (related to the accuracy of the devices used), with a confidence level of 95% and with a coverage factor k = 2, Up = 0.1 °C.

3.2 Research of resistance to impact with a hard body 1,0 kg in positive temperature - ITB own methods

Tab. 2.1. Results of the impact resistance tests with a steel ball of 1,0 kg at a temperature of + 60 ÷ 70 °C

	Hit number	Energia uderzenia [Nm]	The nature of the destruction
I a sample Model SV-07 on a frame made of wooden battens mounted with a spacing of 40 cen	**1**	10	No damage
	2	10	No damage
	3	10	No damage
	4	10	No damage
	5	10	No damage
	6	10	No damage
	7	10	No damage
	8	10	No damage
	9	10	No damage
	10	10	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of measuring the mass of 0.5 kg of the hard body (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 5g. Expanded uncertainty of temperature measurement + 60 ÷ 70 °C (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 0.1 °C.

Tab. 2.2. Results of the impact resistance tests with a steel ball of 1,0 kg at a temperature of + 60 ÷ 70 °C

	Hit number	Impact energy [Nm]	The nature of the destruction
I a sample Model SV-08 on a frame made of wooden battens installed with a spacing of 80 cen	**1**	10	No damage
	2	10	No damage
	3	10	No damage
	4	10	No damage
	5	10	No damage
	6	10	No damage
	7	10	No damage
	8	10	No damage
	9	10	No damage
	10	10	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of measuring the mass of 0.5 kg of the hard body (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 5g. Expanded uncertainty of temperature measurement + 60 ÷ 70 °C (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 0.1 °C.

Tab. 2.3. Results of the impact resistance tests with a steel ball of 1,0 kg at a temperature of + 60 ÷ 70 °C

	Hit number	Impact energy [Nm]	The nature of the destruction
I a sample Model SV-07 on a frame made of wooden battens mounted with a spacing of 40 cen	**1**	10	No damage
	2	10	No damage
	3	10	No damage
	4	10	No damage
	5	10	No damage
	6	10	No damage
	7	10	No damage
	8	10	No damage
	9	10	No damage
	10	10	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of measuring the mass of 0.5 kg of the hard body (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 5g. Expanded uncertainty of temperature measurement + 60 ÷ 70 °C (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 0.1 °C.

Tab. 2.4. Results of the impact resistance tests with a steel ball of 1,0 kg at a temperature of + 60 ÷ 70 °C

	Hit number	Impact energy [Nm]	The nature of the destruction
I a sample Model SV-08 on a frame made of wooden battens installed with a spacing of 80 cen	**1**	10	No damage
	2	10	No damage
	3	10	No damage
	4	10	No damage
	5	10	No damage
	6	10	No damage
	7	10	No damage
	8	10	No damage
	9	10	No damage
	10	10	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of measuring the mass of 0.5 kg of the hard body (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 5g. Expanded uncertainty of temperature measurement + 60 ÷ 70 °C (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 0.1 °C.

3.3 Research of resistance to impact with a heavy soft body 50,0 kg at negative temperature - ITB own methods

Tab. 3.1. Results of tests of resistance to impact with a heavy soft body 50,0 kg at the temperature of -20 ° C

	Hit number	Impact energy [Nm]	The nature of the destruction
II a sample Model SV-07 on a frame made of wooden battens mounted with a spacing of 40 cen	**1**	500	No damage
	2	500	No damage
	3	500	No damage
	4	500	No damage
	5	500	No damage
	6	500	No damage
	7	500	No damage
	8	500	No damage
	9	500	No damage
	10	500	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of the measurement of the mass of a heavy soft body 50 kg (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 500g. Expanded uncertainty of temperature measurement -20 °C (related to the accuracy of the devices used), with a confidence level of 95% and with a coverage factor k = 2, Up = 0.1 °C.

Tab. 3.2. Results of tests of resistance to impact with a heavy soft body 50,0 kg at the temperature of -20 ° C

	Hit number	Impact energy [Nm]	The nature of the destruction
II a sample Model SV-08 on a frame made of wooden battens installed with a spacing of 80 cen	**1**	500	No damage
	2	500	No damage
	3	500	No damage
	4	500	No damage
	5	500	No damage
	6	500	No damage
	7	500	No damage
	8	500	No damage
	9	500	No damage
	10	500	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of the measurement of the mass of a heavy soft body 50 kg (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 500g. Expanded uncertainty of temperature measurement -20 °C (related to the accuracy of the devices used), with a confidence level of 95% and with a coverage factor k = 2, Up = 0.1 °C.

Tab. 3.3. Results of tests of resistance to impact with a heavy soft body 50,0 kg at the temperature of -20 ° C

	Hit number	Impact energy [Nm]	The nature of the destruction
II a sample Model SV-07 on a frame made of wooden battens mounted with a spacing of 40 cen	**1**	500	No damage
	2	500	No damage
	3	500	No damage
	4	500	No damage
	5	500	No damage
	6	500	No damage
	7	500	No damage
	8	500	No damage
	9	500	No damage
	10	500	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of the measurement of the mass of a heavy soft body 50 kg (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 500g. Expanded uncertainty of temperature measurement -20 °C (related to the accuracy of the devices used), with a confidence level of 95% and with a coverage factor k = 2, Up = 0.1 °C.

Tab. 3.4. Results of tests of resistance to impact with a heavy soft body 50,0 kg at the temperature of -20 ° C

	Hit number	Impact energy [Nm]	The nature of the destruction
II a sample Model SV-08 on a frame made of wooden battens installed with a spacing of 80 cen	**1**	500	No damage
	2	500	No damage
	3	500	No damage
	4	500	No damage
	5	500	No damage
	6	500	No damage
	7	500	No damage
	8	500	No damage
	9	500	No damage
	10	500	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of the measurement of the mass of a heavy soft body 50 kg (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 500g. Expanded uncertainty of temperature measurement -20 °C (related to the accuracy of the devices used), with a confidence level of 95% and with a coverage factor k = 2, Up = 0.1 °C.

3.4 Research of resistance to impact with a heavy soft body 50,0 kg at positive temperature - ITB own methods

Tab. 4.1. Results of tests of resistance to impact with a heavy soft body 50,0 kg at the temperature of + 60 ÷ 70 ° C

	Hit number	Impact energy [Nm]	The nature of the destruction
II a sample Model SV-07 on a frame made of wooden battens mounted with a spacing of 40 cen	**1**	500	No damage
	2	500	No damage
	3	500	No damage
	4	500	No damage
	5	500	No damage
	6	500	No damage
	7	500	No damage
	8	500	No damage
	9	500	No damage
	10	500	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of the measurement of the mass of a heavy soft body 50 kg (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 500g. Expanded uncertainty of temperature measurement + 60 ÷ 70 °C (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 0.1 °C.

Tab. 4.2. Results of tests of resistance to impact with a heavy soft body 50,0 kg at the temperature of + 60 ÷ 70 ° C

	Hit number	Impact energy [Nm]	The nature of the destruction
II a sample Model SV-08 on a frame made of wooden battens installed with a spacing of 80 cen	**1**	500	No damage
	2	500	No damage
	3	500	No damage
	4	500	No damage
	5	500	No damage
	6	500	No damage
	7	500	No damage
	8	500	No damage
	9	500	No damage
	10	500	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of the measurement of the mass of a heavy soft body 50 kg (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 500g. Expanded uncertainty of temperature measurement + 60 ÷ 70 °C (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 0.1 °C.

Tab. 4.3. Results of tests of resistance to impact with a heavy soft body 50,0 kg at the temperature of + 60 ÷ 70 ° C

	Hit number	Impact energy [Nm]	The nature of the destruction
II a sample Model SV-07 on a frame made of wooden battens mounted with a spacing of 40 cen	**1**	500	No damage
	2	500	No damage
	3	500	No damage
	4	500	No damage
	5	500	No damage
	6	500	No damage
	7	500	No damage
	8	500	No damage
	9	500	No damage
	10	500	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of the measurement of the mass of a heavy soft body 50 kg (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 500g. Expanded uncertainty of temperature measurement + 60 ÷ 70 °C (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 0.1 °C.

Tab. 4.4. Results of tests of resistance to impact with a heavy soft body 50,0 kg at the temperature of + 60 ÷ 70 ° C

	Hit number	Impact energy [Nm]	The nature of the destruction
II a sample Model SV-08 on a frame made of wooden battens installed with a spacing of 80 cen	**1**	500	No damage
	2	500	No damage
	3	500	No damage
	4	500	No damage
	5	500	No damage
	6	500	No damage
	7	500	No damage
	8	500	No damage
	9	500	No damage
	10	500	No damage

Expanded uncertainty of measurement of the drop height (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 1mm. Expanded uncertainty of the measurement of the mass of a heavy soft body 50 kg (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 500g. Expanded uncertainty of temperature measurement + 60 ÷ 70 °C (related to the accuracy of the devices used), at the 95% confidence level and with the coverage factor k = 2, Up = 0.1 °C.

3.5 Wind load resistance tests +/- 1600 Pa - ITB own methods

Tab. 5.1. Wind load resistance test results of + 1600Pa at laboratory temperature

	Load [kN/m]	Condition after loading
III a sample Model SV-07 on a frame made of wooden battens mounted with a spacing of 40 cen	**+ 1,60**	No damage - functionality retained

Expanded uncertainty of measurement (related to the accuracy of the devices used) at the confidence level of 95% and with the coverage factor k = 2, Up: pressure: 5%.

Tab. 5.2. Wind load resistance test results of - 1600Pa at laboratory temperature

	Load [kN/m]	Condition after loading
III a sample Model SV-08 on a frame made of wooden battens installed with a spacing of 80 cen	**- 1,60**	No damage - functionality retained

Expanded uncertainty of measurement (related to the accuracy of the devices used) at the confidence level of 95% and with the coverage factor k = 2, Up: pressure: 5%.

4. Product properties evaluation.

The parties agreed that when assessing the compliance of the results with the criteria set out in the own methods based on the applicable testing standards, the simple acceptance rule is applied, i.e. the product is considered compliant with regard to the result, if this result, without taking into account the variability resulting from the measurement uncertainty, meets requirement. This is related to the risk of incorrect assessment resulting from not taking into account the uncertainty in the assessment. The risk also results from the fact that the laboratory does not have knowledge about the variability of the product population, but only about the tested sample.

A detailed summary of the obtained strength tests of the SV-07 soffit soffit on a frame made of wooden battens installed at a distance of 40 cen; the model of the SV-08 soffit soffit on a frame made of wooden battens installed with a spacing of 80 cen, is presented in tab. 6 and 7.

Tab. 6. Classification of the SV-07 soffit model on a frame made of wooden battens mounted with a spacing of 40 centimeters

Property	Requirement	Test result
impact resistance 1,0 kg steel ball at a temperature of +60 ÷ 70 °C	No damage - functionality retained	Meets the requirements
resistance to impact with a heavy soft body 50,0 kg at the temperature of +60 ÷ 70 °C	No damage - functionality retained	
impact resistance 1,0 kg steel ball at -20 °C	No damage - functionality retained	
resistance to impact with a soft, heavy body 50,0 kg at the temperature of -20 °C	No damage - functionality retained	
wind load +1,6 kN/m	No damage - functionality retained	
wind load -1.6 kN/m	No damage - functionality retained	

Tab. 7. Classification of the SV-08 soffit model on a frame made of wooden battens mounted with a spacing of 80 centimeters

Property	Requirement	Test result
impact resistance 1,0 kg steel ball at a temperature of + 60 ÷ 70 °C	No damage - functionality retained	Meets the requirements
resistance to impact with a heavy soft body 50,0 kg at the temperature of + 60 ÷ 70 °C	No damage - functionality retained	
impact resistance 1,0 kg steel ball at -20 °C	No damage - functionality retained	
resistance to impact with a soft, heavy body 50,0 kg at the temperature of -20 °C	No damage - functionality retained	
wind load +1,6 kN/m	No damage - functionality retained	
wind load -1.6 kN/m	No damage - functionality retained	

Responsible for testing:
eng. Daniel Kuna; Msc. Marzena Jakimowicz

Signature

The person authorizing the report
Msc. Agnieszka Gorycka

Signature

Head of the Building Elements Laboratory
Msc. Marzena Jakimowicz

Signature

Warsaw, on: May 29, 2020.

The Testing Laboratory declares that the test results refer only to the tested object. Without the written consent of the Testing Laboratory, the Report may not be reproduced except in full.

The test report does not replace the documents required for placing on the market and making available construction products.

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