

IKATES, s.r.o. – Laboratory for glass and building products testing



Tolstého 186, 415 03 Teplice, Czech Republic

tel.: +420 417 503 093 / +420 417 502 825

e-mail: ikates@ikates.cz, www.ikates.cz



*Testing laboratory No.1139 accredited by
Czech Accreditation Institute acc. to ČSN EN ISO/IEC 17025
for glass and selected building products testing*

TEST REPORT

No. :EN 1279-2

Test item : **Insulating glass units**
- long term test method and requirements for moisture penetration according to ČSN EN 1279-2 (initial type test)

Client (address): **HERMETICS OOD,
Pere Tosef 10, Petrich, Bulgaria**

Producer (address): **HERMETICS OOD,
Pere Tosef 10, Petrich, Bulgaria**

Place of test performance : **testing laboratory IKATES, s.r.o., Teplice**

Date of sample receiving : **2015-11-25**

Date of test performance : **2015-12-09 to 2016-03-23**

Date of issue : **2016-03-30**

Number of pages : **5 + annex**

Page No. : **1**

Manager of testing laboratory : **Jiří Stránský**



Results and/or information out of accreditation range and subcontracts are in the test report identified. Copying and translating, using of report for other purposes (advertisement, extracts from the report) only with consent of the laboratory. Without consent of the laboratory is possible to reproduce the report only whole.

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Normative foundations :

ČSN EN 1279-2 (2003): Glass in building – Insulating glass units – Part 2: Long term test method and requirements for moisture penetration

Sampling :

Following test specimens with dimensions 352x502 mm were supplied to testing:

15 pcs. float glass 4 mm / Al-12 mm, air / float glass 4 mm

Components list:

glass – float glass clear according to EN 572-9, Saint Gobain

spacer – aluminium, Viomal S.A., 12 mm, sawed, plastic corner keys

desiccant – molecular sieve Phonosorb 558,3Å, Grace Davison, filling: 4 sides

inner sealant – no sealant

outer sealant – hot-melt NOVAMELT B-29, Hermetics OOD, seal width 6-7 mm (measured on glass)

Metrological provision of tests :

Calibrated measuring gauges of testing laboratory were used during testing. Dew point test was performed using of equipment according to ČSN EN 1279-2 in the vertical position, the temperature was measured with calibrated thermometer. The cooling was performed with solid carbon dioxide and ethanol.

Climatic test was performed in the climatic chamber CTS controlled by the calibrated thermo- and hygrometer and by the validated software CID-PRO.

Determination of moisture content and adsorption capacity of desiccant was performed using of oven Tempra with calibrated thermocouples and verified laboratory balances KERN 770-14.



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Test results :

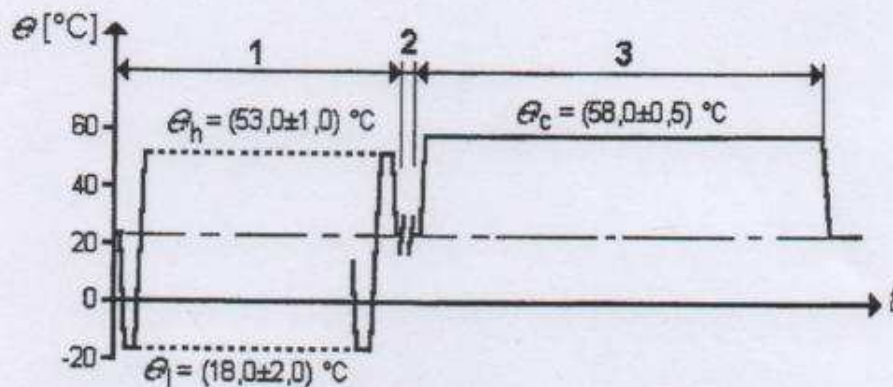
1. Dew point temperature measurement (ČSN EN 1279-2, cl. 6.1, annex A)

Specimen No.	Dew point (°C)
1-15	- 60

Note: Inasmuch as no condensation appears at tested specimens, the specimens were numbered at random.

2. Climate test (ČSN EN 1279-2, cl. 5, 6.2.2)

Climate test – specimens No.4, 5, 6, 11, 12



- 1 56 temperature cycles of 12 h (four weeks);
- 2 interval of 2 h to 4 h for moving test pieces from one cabinet to a second cabinet
- 3 (1176 ± 4) h (seven weeks) constant temperature and relative humidity $\geq 95\%$.



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2.1 Moisture content measurement

2.1.1 Initial moisture content (drying method at 950 °C)

specimen No.	m_1 (g)	m_2 (g)	T_i (%)	$T_{i,av}$ (%)
7	33,6904	33,0859	1,79	1,75
8	36,1237	35,4881	1,76	
9	31,3315	30,7829	1,75	
10	31,4238	30,8897	1,70	

2.1.2 Final moisture content (drying method at 950 °C)

specimen No.	m_1 (g)	m_2 (g)	T_f (%)	$T_{f,av}$ (%)
4	34,6837	33,5614	3,24	3,34
5	32,2128	31,1215	3,39	
6	31,4115	30,3753	3,30	
11	36,6646	35,4094	3,42	
12	43,9192	42,4544	3,34	

2.1.3 Standard moisture adsorption capacity (drying method at 950 °C)

specimen No.	m_1 (g)	m_2 (g)	T_c (%)	$T_{c,av}$ (%)
1	28,3633	22,9308	19,15	19,12
15	30,5791	24,7458	19,08	

2.1.4 Moisture penetration index

specimen No.	moisture penetration index	
	I (%)	I_{av} (%)
4	8,55	9,27
5	9,43	
6	8,91	
11	9,63	
12	9,12	

Expert viewpoint:

Measured values: $I_{av} = 9,27\%$; $I_{max} = 9,63\%$ at specimen No.11

Requirement of ČSN EN 1279-2, cl.4.1: $I_{av} \leq 20\%$; $max. I \leq 25\%$

Viewpoint: test results are in agreement with requirement of the standard.



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Statement : Test results, given in this report, apply only to the tested items and do not replace other documents, e.g. administrative characters, issued by other bodies, according to particular regulations. The official version is in Czech language.

Distribution list :

2 x HERMETICS OOD

1 x Laboratory for glass and building products testing IKATES, s.r.o. (archive)

Tests were performed by :

Report was performed by :

For correctness and validity of report is responsible :

Michal Hnilička

End of the test report



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Summary report No. 297S/2015 Date: 2016-03-30

Insulating glass units – Moisture penetration results according to EN 1279-2

For details, see the test report No. 297 / 2015

Company : HERMETICS OOD,
Pere Tosef 10, Petrich, Bulgaria

Plant : HERMETICS OOD,
Pere Tosef 10, Petrich, Bulgaria

System description, file number: „IGU production system description“

Product name: Insulating glass unit

System conforms:

YES	NO
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Jiri Stránský
manager of testing laboratory

