

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



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

## TEST REPORT

No. : 302 / 2014

Test item : **Laminated glass**  
initial type tests according to ČSN EN 14449:  
- humidity test according to ČSN EN ISO 12543-4  
- high temperature tests according to ČSN EN ISO 12543-4  
- radiation test according to ČSN EN ISO 12543-4

Client (address): Dostcam Cam Sanayi A.Ş.  
10008 Sokak No: 14 A.O.S.B.  
Çiğli / İzmir / Turkey

Producer (address): Dostcam Cam Sanayi A.Ş.  
10008 Sokak No: 14 A.O.S.B.  
Çiğli / İzmir / Turkey

Place of test performance : IKATES, s.r.o., Teplice  
Date of sample receiving : 2014-11-28 and 2017-02-09  
Date of test performance : 2014-12-11 to 2017-03-20  
Date of issue : 2017-05-18  
Number of pages : 3  
Page No. : 1  
Manager of testing laboratory : Jiří Stránský

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**Normative foundations :**

ČSN EN ISO 12543 (2012): Glass in building – Laminated glass and laminated safety glass

ČSN EN 14449 (2006): Glass in building – Laminated glass and laminated safety glass – Evaluation of conformity/Product standard

**Sampling :**

Following test specimens of laminated glass were supplied to testing:

3 pcs. 100 x 300 mm 44.1 (float glass 4 mm + 0,38 mm PVB + float glass 4 mm)

3 pcs. 100 x 300 mm 44.2 (float glass 4 mm + 0,76 mm PVB + float glass 4 mm)

3 pcs. 100 x 300 mm 44.4 (float glass 4 mm + 1,52 mm PVB + float glass 4 mm)

3 pcs. 300 x 300 mm 44.4 (float glass 4 mm + 1,52 mm PVB + float glass 4 mm)

3 pcs. 100 x 300 mm 55.1 (float glass 4 mm + 0,38 mm PVB + float glass 4 mm)

3 pcs. 100 x 300 mm 55.2 (float glass 4 mm + 0,76 mm PVB + float glass 4 mm)

3 pcs. 100 x 300 mm 55.4 (float glass 4 mm + 1,52 mm PVB + float glass 4 mm)

Note: Original edges without protection.

**Metrological provision of tests :**

The radiation test was carried out using of testing equipment– radiation wall with Ultravitalux lamps. The light transmittance of samples before and after the test was measured using of spectrometer Shimadzu UV 3600 with metrological traceability. Irradiance was measured with pyranometer Kipp & Zonen CM-6B with metrological traceability, the temperature using of calibrated thermocouple.

Humidity test was carried out in the climate chamber Hygrotherm. For measuring and controlling of temperature was used calibrated thermometer. The high temperature test was carried out in climate chamber CTS with metrological traceability.

**Test results :**

**1. High temperature test (ČSN EN ISO 12543-4, art.5.3.2 – procedure A)**

samples	state after the test
3 pcs. 55.1	no changes in evaluated area
3 pcs. 55.2	no changes in evaluated area
3 pcs. 55.4	no changes in evaluated area



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**2. Humidity test** (ČSN EN ISO 12543-4, art.6.3.1 – with condensation)

samples	state after the test
3 pcs. 44.1	no changes in evaluated area
3 pcs. 44.2	no changes in evaluated area
3 pcs. 44.4	no changes in evaluated area
3 pcs. 55.1	no changes in evaluated area
3 pcs. 55.2	no changes in evaluated area
3 pcs. 55.4	no changes in evaluated area

**3. Radiation test** (ČSN EN ISO 12543-4; 7.3.1)

Duration: 2000 hours; sources: 16 pcs. of OSRAM Ultravitalux 300 W

None of the tested specimens shows visually observable defects in the evaluated area.

Sample No.	Light transmittance before and after the test		Rel. difference (%)
	$\tau_{V1}$ (%)	$\tau_{V2}$ (%)	
44.4			
1	85,1	84,7	-0,5
2	85,3	85,0	-0,4
3	85,3	84,9	-0,5

Note: According to ČSN EN 12543-2, art. 4.3 the allowable difference is max.  $\pm 3$  % rel.



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

**Distribution list :**

2 x Dostcam Cam Sanayi A.Ş.

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

Tests were performed by :

  
  
**Jiří Šnajdr, Jiří Stránský**

Report was performed by :

For correctness and validity of report is responsible :

  
**Michal Hnilička**

end of the test report

