

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



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*Accredited testing laboratory No.1139*

*accredited by Czech Institute of Accreditation in Prague*

*for glass and selected building products testing*

## TEST REPORT

No. : **84 / 2009**

Test item : **Glass Block: 1919/8 Energy Saving Glass Block**  
- determination of the U-value according to ČSN EN 673

Client (address): VITRABLOK s.r.o., Bílinská 42, Duchcov, Czech Republic

Producer (address): SEVES S.p.A., Via Reginaldo Guiliani 360, Firenze, Italy

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

Date of order receiving : 2009-03-17

Date of ITC : 2009-03-24

Date of issue : 2009-03-25

Number of pages : 3



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**Normative foundations :**

ČSN EN 673 (2002): Glass in building - Determination of thermal transmittance (*U* value)  
- Calculation method (incl. amdt A1 and A2)

ČSN EN 1051-2 (2008): Glass in building – Glass blocks and glass pavers – Part 2:  
Evaluation of conformity / Product standard

**Sampling :**

To the determination of U-value was supplied glass block:

- 1919/8 Energy Saving Glass Block (with pasted-in glass)

Note: Between two halves of glass block is pasted-in coated glass Silverstar EN plus 4 mm. The glass block is closed in the atmosphere of argon.

**Metrological provision of tests :**

For measurements of dimensions and weighing were used calibrated measuring gauges of lab. Calculation of U-value acc. to ČSN EN 673 was carried out using of validated MOTS-software (validation using of software WIS of company WINDAT).

**Test results :**

**Determination of thermal transmittance (*U* value) according to ČSN EN 673  
(modelling of glass block according to ČSN EN 1051-2, annex C)**

thermal conductivity of soda lime glass	$r = 1,0 \text{ m} \cdot \text{K}/\text{W}$
temperature difference between boundary glass surfaces	$\Delta T = 15 \text{ K}$
mean temperature of gas gap	$T_m = 283 \text{ K}$
external heat transfer coefficient	$h_e = 23 \text{ W}/(\text{m}^2 \cdot \text{K})$
internal heat transfer coefficient	$h_i = 8 \text{ W}/(\text{m}^2 \cdot \text{K})$

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**Test specimen : 1919/8 Energy Saving Glass Block**

equivalent thickness  $h_{eq} = 7,0$  mm; area  $A_c = 277$  cm<sup>2</sup>

equivalent thickness  $t_{eq} = 8,0$  mm

thermal transmittance  $U_c = 0,86$  W.m<sup>-2</sup>.K<sup>-1</sup>

thermal transmittance  $U_e = 4,0$  W.m<sup>-2</sup>.K<sup>-1</sup>

**total thermal transmittance  $U_f = 1,4$  W.m<sup>-2</sup>.K<sup>-1</sup>**

**Statement :** Test results, given in this report, apply only to the tested items and does not replace other documents, e.g. administrative characters, issued from other bodies, according to particular regulations.

**Distribution list :**

2 x VITRABLOK, s.r.o.

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

**Determination was performed by :**

**Report was performed by :**

**For correctness and validity of report is responsible :**



**Jiří Stránský**

