

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



Tolstého 186, 415 03 Teplice, Czech Republic

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

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



*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. : 121 / 2018

Test item : **Laminated safety glass**
- bullet resistance test EN 1063 - class BR7

Client (address): Merva CAM Ltd. Şti.
Kayseri Yolu Üzeri 3. Km - KAHRAMANMARAŞ / TURKEY

Producer (address): Merva CAM Ltd. Şti.
Kayseri Yolu Üzeri 3. Km - KAHRAMANMARAŞ / TURKEY

Place of test performance : VTÚ, s.p., Slavičín, Czech Republic

Date of sample receiving : 2018-05-18

Date of test performance : 2018-06-12 to 2018-06-22

Date of issue : 2018-06-29

Number of pages : 4

Page No. : 1

Manager of testing laboratory : Jifi Stránský



Results and/or informations 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 can be the report reproduced whole only.

No. : 121 / 2018	Number of pages : 4
	Page No. : 2

Normative foundations :

ČSN EN 1063 (2000): Glass in building - building - Security glazing – Testing and classification of resistance against bullet attack

Sampling :

To the bullet-resistance test were supplied following test specimens with dimensions 500x500 mm:

3 pcs. float glass 8 mm + 1,14 mm PVB + float glass 10 mm + 1,14 mm PVB + float glass 10 mm + 1,14 mm PVB + float glass 10 mm + 1,14 mm PVB + float glass 10 mm + 1,14 mm PVB + float glass 10 mm + 1,14 mm PVB + float glass 8 mm

Notes:

- composition is given from external (attacked) to internal surface
- total measured thickness 82,4 to 83,0 mm

Metrological provision of tests :

The test was carried out in accredited testing laboratory No. 1128 – VTÚ, s.p. in Slavičín. Calibrated measuring gauges were used to the testing. Bullet velocity was measured by the calibrated optical gates SH-95.

Test was performed using of pressure measurement barrel H.837 Used ammunition: FN Belgium, 7,62x51 mm FJ/PB/HC1, bullet mass 9,8 g, test range 10 mm, reference velocity 820 ± 10 m/s.

Test results :

Bullet resistance (ČSN EN 1063) Class : BR7

specimen No.	shot No.	bullet velocity (m/s)	state after shot
1	1	815,5	no penetration, no splinters
	2	822,3	no penetration, no splinters
	3	817,6	no penetration, no splinters
2	1	825,2	no penetration, no splinters
	2	822,4	no penetration, no splinters
	3	824,7	no penetration, splinters
3	1	814,6	no penetration, no splinters
	2	825,3	no penetration, no splinters
	3	827,7	no penetration, splinters

Classification: EN 1063 BR7-S

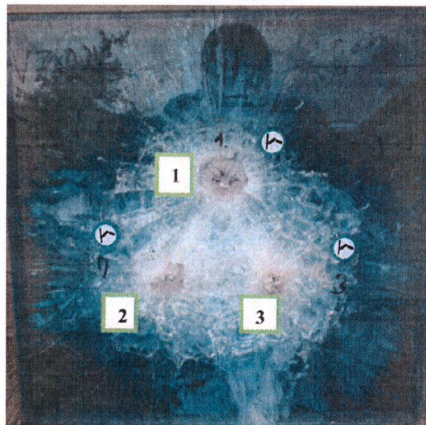


No. : 121 / 2018

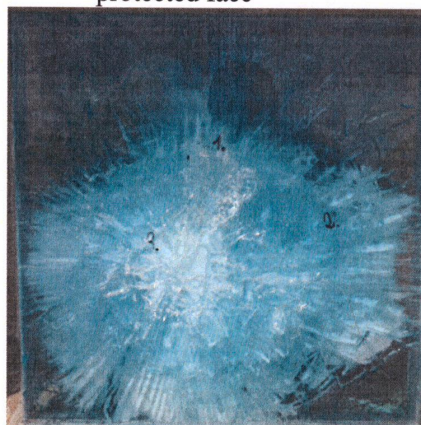
Number of pages : 4

Page No. : 3

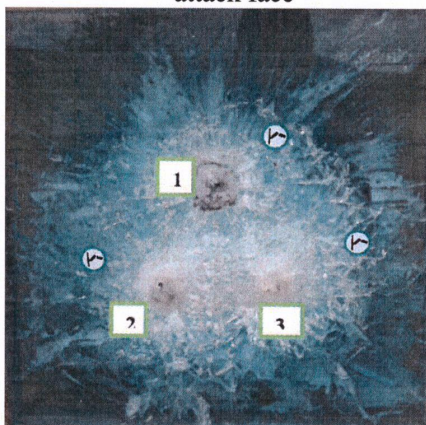
specimen No.1
attack face



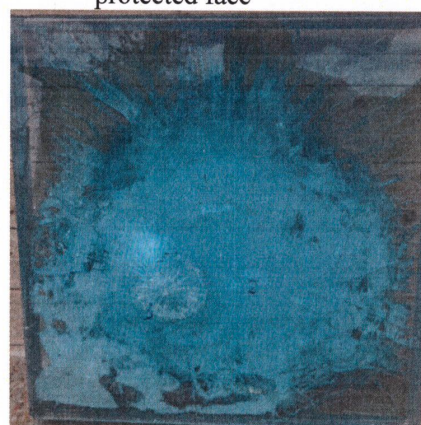
protected face



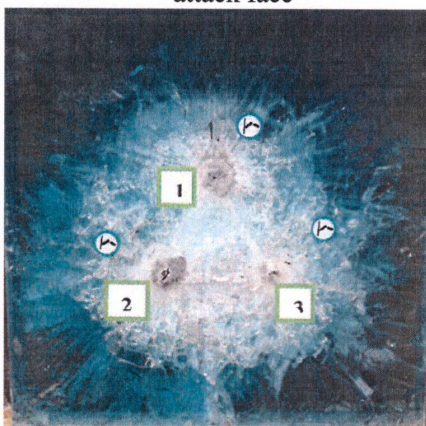
specimen No.2
attack face



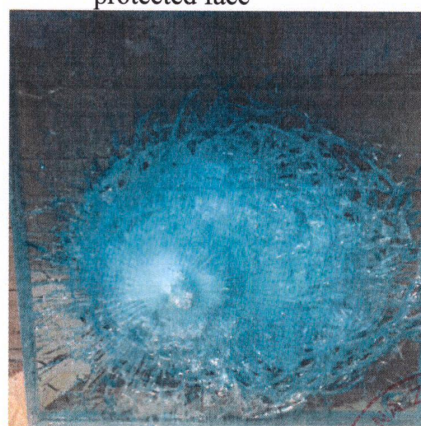
protected face



specimen No.3
attack face



protected face



No. : 121 / 2018	Number of pages : 4 Page No. : 4
------------------	-------------------------------------

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 Merva CAM Ltd. Šti.

1 x IKATES, s.r.o. (archive)

Report was prepared by :

For correctness and validity of report is responsible :

 end of the test report

Jiří Stránský

