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GLASS RESEARCH TEAM

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AB 054

TEST REPORT No. 017.W.21.N
concerning assessing the performance of the 44.4
laminated glass laminated with EVA foil

Orderer: D.A. Glass Sp. z o.o.
(name, address, date of order) ul. Innowacyjna 15
36-060 Głogów Małopolski
(order of 15.06.2021, ZI 3L0129T1)

Date of samples delivery: 14.06.2021
Date of starting the test: 17.06.2021
Date of ending the test: 17.06.2021

Test performed by: M. Sc. Eng. Jacek Brzezicki
Robert Bielec

person assessing the performance: PhD Eng. Magda Kosmal

Distribution list:
1 copy Orderer,
1 copy Department of Glass Research Team

Lider Grupy Badawczej

Szkoło
Magda Kosmal
dr inż. Magda Kosmal

Cracow, dated 18.06.2021

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**TEST REPORT No. 017.W.21.N
CONCERNING ASSESSING THE
PERFORMANCE**

1. Description and identification of the test subject

The subject of the tests and assessment of performance were flat 44.4 laminated glass samples with dimensions of 1100 mm x 900 mm. The Producer – D.A. Glass Sp. z o.o. delivered to Glass Research Team six samples with construction (according to the producer's declaration)

4 mm float glass/1,52 mm EVA foil/4 mm float glass; for research purposes these samples were marked with numbers 017.W.21.N/1÷6.

For clarity, in the further part of this report, the part of the designation corresponding to the report number is omitted.

2. The proceedings**2.1. Test scope**

Test scope agreed with the Producer covered burglary resistance.

2.2. Test method

The test of burglary resistance was carried out in accordance with point 8 of standard *PN-EN 356: 2000 "Glass in building – Security glazing – Testing and classification of resistance against manual attack"* and point 4.3.2.6 of standard *PN-EN14449: 2008 "Glass in building – Laminated glass and laminated safety glass – Evaluation of conformity/Product standard"*.

Samples were hit three times with sphere weighing 4,11 kg, so that total three hits formed a equilateral triangle with side length of 130 ± 20 mm around the geometric centre of the sample, and one of the sides of a triangle was parallel to the shorter side of the sample. The sphere drop height was 9,0 m.

The samples No. 1÷3 were used for testing. The samples No. 4÷6 were kept as control samples.

3. Test results

The test results of burglary resistance of laminated glass samples are shown in Table 1.

The temperature during the test was 22 °C.

Table 1 The test results of 4,11 kg sphere impact resistance of glass samples

laminated glass with construction 4 mm float/1,52 mm EVA foil/4 mm float			
Sample no.	Test results after 4,11 kg sphere hitting from a height of 9,0 m for the:		
	first time	second time	third time
1	cracked without damaging the foil	cracked without damaging the foil	cracked without damaging the foil
2	cracked without damaging the foil	cracked without damaging the foil	cracked with damaging the foil; sphere didn't pass through the sample
3	cracked without damaging the foil	cracked without damaging the foil	cracked without damaging the foil

Reservations:

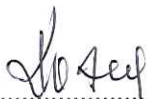
1. The test results refer only to the tested samples.

2. Without consent of the Department of Glass Technology on paper, the report cannot be duplicated otherwise than as a whole.

3. Deadline for the submission of complaints must not exceed 1 month from the date of the test report drawing up.

4. The statement(s) of compliance with specification (or requirements) is (are) based on expanded uncertainty with confidence level of 95% for test results on which the decision is based on compliance. The uncertainty does not include the step of sampling.

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**TEST REPORT No. 017.W.21.N
CONCERNING ASSESSING THE
PERFORMANCE****4. Assessing the performance****The construction product flat 44.4 laminated glass with construction****4 mm float glass/1,52 mm EVA foil/4 mm float glass****produced by D.A. Glass Sp. z o.o. has the following performance:****burglary resistance – P4A class according to EN 356: 1999.**

.....
/ signature of the person
drawing up the report /

Lider Grupy Badawczej

Szkło


dr inż. Magda Kosmal

.....
/ signature of person
assessing the performance /

Z-ca Lidera Grupy Badawczej
Szkło
mgr inż. Joanna Rybicka-Łada

.....
/ signature of the person
authorizing test report /

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