

# IMPACT SECURITY LLC

## BALLISTICS/FORCED ENTRY RESISTANCE TEST REPORT

### SCOPE OF WORK

TEST 5-AA1 TESTING OF DEFENSELITE PRO GLAZED FIXED WINDOW

### REPORT NUMBER

N2701.01-119-12 R1

### TEST DATES

04/28/22

### ISSUE DATE

05/26/22

### REVISION DATE

06/01/22

### RECORD RETENTION END DATE

04/28/26

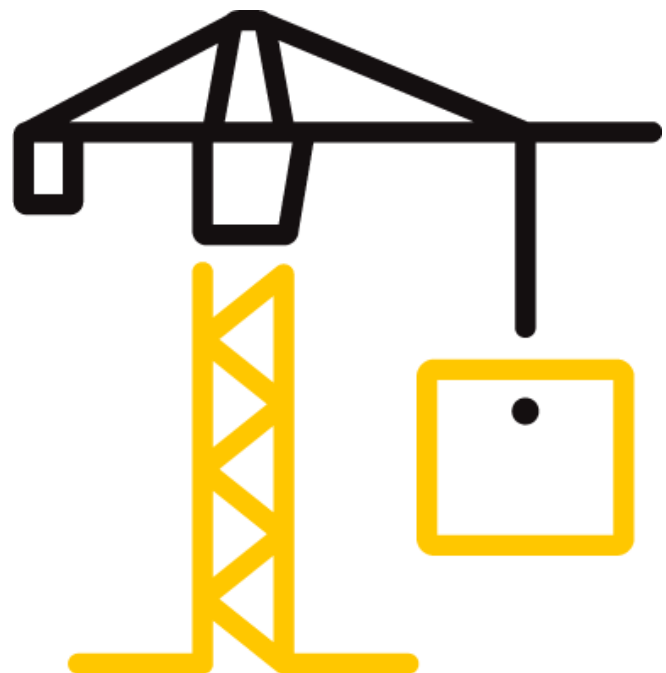
### PAGES

10

### DOCUMENT CONTROL NUMBER

RT-R-AMER-TEST-2788 (06/15/18)

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## TEST REPORT FOR IMPACT SECURITY LLC

Report No.: N2701.01-119-12 R1

Date: 05/26/22

### REPORT ISSUED TO

#### IMPACT SECURITY LLC

600 Kirk Road #100

Marietta, Georgia 30060

### SECTION 1

#### SCOPE

Intertek Building & Construction (B&C) was contracted by Impact Security LLC, Marietta, Georgia to perform ballistic and force entry resistance testing in accordance with Test 5-aa1 on *DefenseLite Pro* glazed fixed window. Results obtained are tested values and were secured by using the designated test method. Testing was conducted at the Intertek B&C test facility in York, Pennsylvania. Intertek B&C in York, Pennsylvania has demonstrated compliance with ISO/IEC International Standard 17025 and is consequently accredited as a Testing Laboratory (TL-144) by International Accreditation Service, Inc. (IAS).

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

### SECTION 2

#### SUMMARY OF TEST RESULTS

SPECIMEN ID	TEST DESIGNATION ACHIEVED BEFORE ENTRY OR DEEMED NO PROGRESS BEING MADE	TOTAL ELAPSED TEST TIME (min:sec)
<i>DefenseLite Pro</i>	Forced Entry Part 2 (Test Part C) - after 50 sec. into the stage	04:05

For INTERTEK B&C:

**COMPLETED BY:** Isaiah W. Gebhart

**TITLE:** Technician II

**SIGNATURE:**   
Digitally Signed for: Isaiah Gebhart by Amanda Ashby

**DATE:** 06/01/22

IWG:tah/aas

**REVIEWED BY:** Travis A. Hoover

**TITLE:** Program Manager

**SIGNATURE:**   
Digitally Signed by: Travis Hoover

**DATE:** 06/01/22

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### SECTION 3

#### TEST METHOD

Each test specimen was evaluated in accordance with the following:

**Test 5-aa1**, *Certification Standards for Retrofitting and Reinforcing of Standard Commercial Entry Systems, Windows, and Glazing*

The specimen was evaluated to the following testing levels in accordance with Test 5-aa1:

<b>Ballistic Attack:</b>	7.62mm, M80, military ball, 147 grain round; velocity: 2700 - 2850 fps
<b>Concentrated Assault:</b>	20 impacts: 5 lb. brick; 10 impacts: steel toe boots
<b>Forced Entry Test Part 1:</b>	2-minute attack: wood 2x4/wrench/claw hammer
<b>Forced Entry Test Part 2:</b>	3-minute attack until failure: 3 lb. hammer/baseball bat

### SECTION 4

#### MATERIAL SOURCE/INSTALLATION

The test specimens were provided by the client in good condition. Representative samples of the test specimens will be retained by Intertek B&C for a minimum of four years from the test completion date.

**Installation:** The specimen was installed into a two-inch by two-inch steel angle frame fixture which included 2x4's along the perimeter to allow for the specimen to be secured rigidly for the testing. Overall dimensions of the test fixture were 40 in by 79 in. The exposed portion of the glazing or "opening" of the test fixture was 32-1/2 in by 74-1/2 in.

### SECTION 5

#### LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Steve Champlin	Impact Security LLC
Isaiah Gebhart	Intertek B&C
Cory Straub	Intertek B&C
Thomas Mickley	Intertek B&C

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### SECTION 6

#### TEST SPECIMEN DESCRIPTION

<b>SPECIMEN ID</b>	<i>DefenseLite Pro</i>
<b>PRODUCT TYPE</b>	Glazed aluminum fixed window
<b>OVERALL SIZE</b>	40 in wide by 78-3/4 in high
<b>DAYLIGHT OPENING</b>	34-1/2 in wide by 73-1/8 in high
<b>FRAME</b>	4-1/2 in wide by 1-3/4 in high aluminum extrusion
<b>COMPOSITION</b>	0.350 in thick polycarbonate with 6 mil film on the threat side and 0.250 in tempered glass on the protected side with 1.625 in air space

### SECTION 7

#### TEST PROCEDURE

##### Ballistics Resistance Test

The sample was rigidly mounted for ballistics resistance testing. The muzzle of the test firearm was set at 20 feet from the sample at zero degree ( $\pm 3^\circ$ ) obliquity. Ballistic screens were set at 5 feet and at 15 feet from the threat side of the sample. Test ammunition was reloaded to conform to Test 5-aa1 requirements. Five 7.62mm rifle, lead core, full metal copper jacket, military ball rounds were fired on the periphery of an eight-inch diameter circle.

##### Forced Entry Resistance Tests

The sample was rigidly mounted for forced entry resistance testing. The resources (tools) for forced entry testing were provided to test personnel, in addition to a four-inch diameter ball representing contraband. The individuals involved with the forced entry resistance testing are listed in the following table:

NAME	AGE (yrs)	WEIGHT (lbs)
Cory Straub	35	227

The forced entry test series was performed as listed below:

- 1) Concentrated Assault Test: Twenty hits with masonry bricks (weighing five pounds each) and ten impacts with steel-toe boot. One assault team member was utilized.
- 2) Forced Entry Resistance Testing Part 1: Two-minute maximum duration attack using a wood 2x4 (36 in length), wrench (14 in length, 10 oz), and claw hammer (13 in length, 16 oz). One assault team member was utilized.
- 3) Forced Entry Resistance Testing Part 2: Three-minute thirty-second maximum duration until failure using a hammer (12 in length, 3 lb) and baseball bat (33 in length, 32 oz). One assault team member was utilized.

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**SECTION 8**

**TEST RESULTS**

**Test Date:** 04/28/22

**Ambient Temperature:** 65 - 68°F

**Ballistic Test Results**

SPECIMEN ID	SHOT	AMMO	VELOCITY (Ft/S)	FAIR SHOT	PENETRATION	NOTES
<i>DefenseLite Pro</i>	1	7.62mm, M80, 147 grain	2745	Y	Y	--
	2		2739	Y	Y	--
	3		2722	Y	Y	--
	4		2714	Y	Y	--
	5		2741	Y	Y	--

**Concentrated Assault/Forced Entry Resistance Test Results**

**Specimen ID - *DefenseLite Pro***

The assault team was unable to create an opening large enough to pass the 4 in diameter ball through after one minute and fifteen seconds of Concentrated Assault Testing. After two minutes of Forced Entry Resistance Testing Part 1, no opening was created for the 4 in diameter ball to pass through. After fifty seconds of Forced Entry Resistance Testing Part 2, a hole large enough for the 4 in diameter ball to pass through was created. Total elapsed test time was four minutes and five seconds.

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### SECTION 9 PHOTOGRAPHS



**Photo No. 1**  
**Test Specimen in Frame**



**Photo No. 2**  
**Concentrated Assault and Forced Entry Tools (Sledgehammer Was Not Used In Testing)**

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**Photo No. 3**  
**Ballistics Post-Test Exterior**



**Photo No. 4**  
**Forced Entry Resistance Testing Part 2, Failure - Post-Test Exterior**



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**Photo No. 5**

**Forced Entry Resistance Testing Part 2, Failure - Post-Test Exterior**

### **SECTION 10** **DRAWINGS**

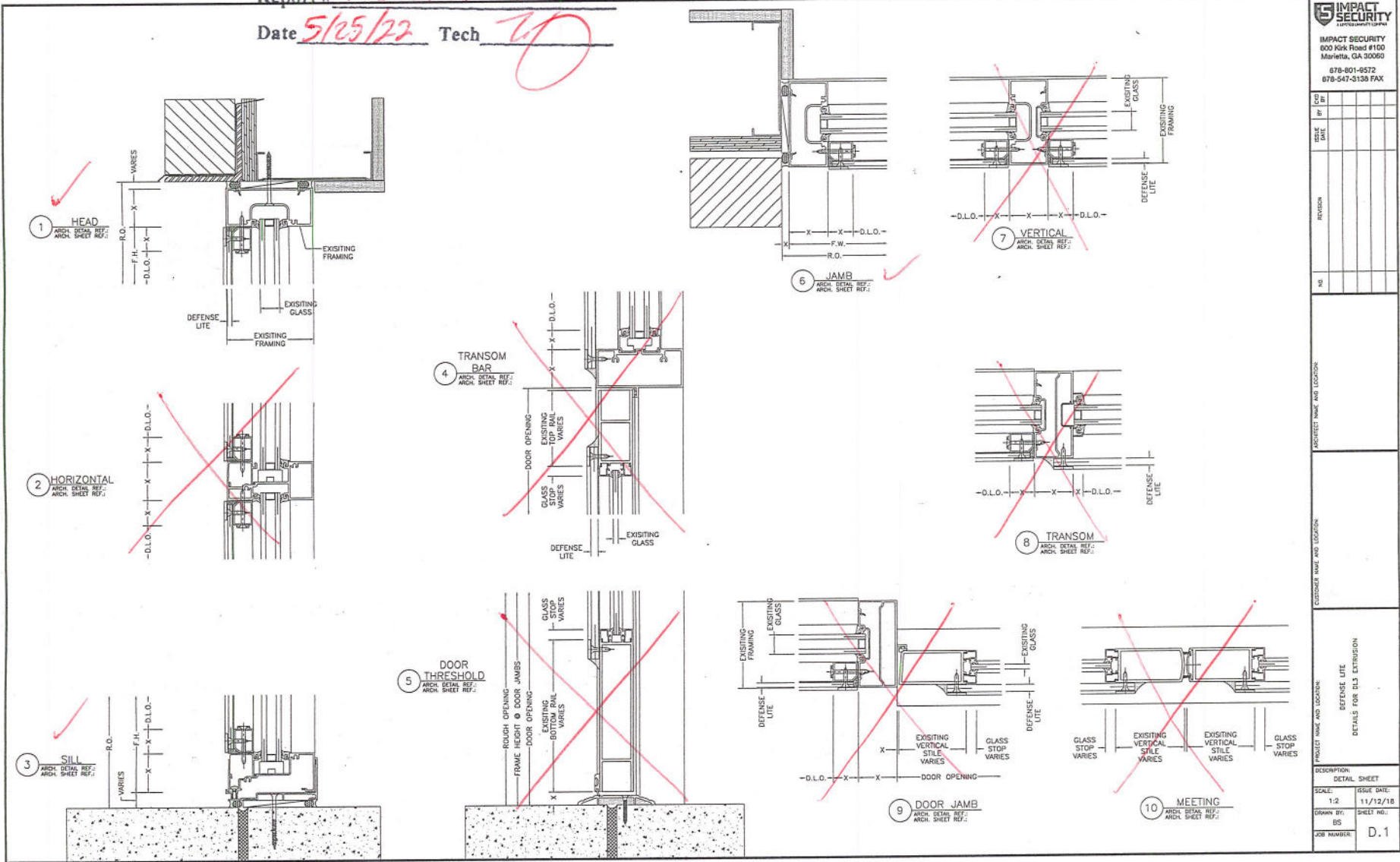
The test specimen drawings, which follow, have been reviewed by Intertek B&C and are representative of the test specimen reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.



Test sample complies with these details.  
Deviations are noted.

Report # N2701-01-11912

Date 5/25/22 Tech [Signature]



<p>IMPACT SECURITY 800 Kirk Road #100 Marietta, GA 30060 878-601-6572 878-547-3158 FAX</p>																										
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NO.	REV.	DATE	BY	APP.																						
<p>DESCRIPTION</p> <p>DETAIL SHEET</p> <p>SCALE: 1/2" = 1'-0"</p> <p>ISSUE DATE: 11/12/18</p> <p>DRAWN BY: DS</p> <p>SHEET NO.: 1</p> <p>JOB NUMBER: D.1</p>																										



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### SECTION 11

#### REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	05/26/22	N/A	Original Report Issue
1	06/01/22	1-3	Updated Company Name to Impact Security LLC