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ASTM F 1233 - 08

National Glazing Solutions
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Date:	June 13, 2013
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Report Number:	ESP012966P.1

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EAR-CONTROLLED DATA

INTRODUCTION:

This report presents the results of tests conducted on security glazing in accordance with **ASTM F 1233 – 08 Security Class 1.** This work was authorized by Carl Kernander of Madico Inc. Samples were received on March 26, 2013, with work conducted on March 26th, 2012.

Two (2) 29.75" x 29.75" specimens of NGS Tri-Shield 6 mm tempered glass with 8 mil interior film and 8 mil exterior film were submitted for testing.

SUMMARY OF RESULTS:

The following is a summary of the test results with respect to conformance or non-conformance to each of the required criteria;

CLASS	TESTS	REMARKS
1.0	Ball Peen Hammer – 10 impacts	Passed Body Passage / Failed Passage of Contraband
1.1	Ball Peen Hammer – 10 impacts	Failed Body Passage

IDENTIFICATION MARKINGS:

None provided

TEST METHODS AND RESULTS:

Test sequence

Two (2) 29.75" x 29.75" samples were tested at an ambient temperature (72 +/- 5ºF) to evaluate their resistance to forced entry from a 32 oz. drop-forged, steel head, ball peen hammer with a 16 inch handle. The samples were subjected to an ambient temperature of 72 +/- 5ºF for 24 hours prior to the test.

Security Class	Ball Peen Hammer Impacts
1.0	10
1.5	10

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Results

Sample Number	Number of strikes to produce the first penetration	Number of strikes to allow passage of 5" x 8" x 8" box
1	2	< 20
2	2	< 20

The standard (9.2.4.1 Passage of Contraband) specifies that any penetration of the glazing material such that a 3mm (1/8") diameter solid shape can be probed and passed through the glazing test specimen will be considered a failure for the passage of contraband by forcible entry. The standard (9.2.4.2 Body Passage) states that any opening in the glazing that is sufficient to freely pass a solid uncompressible rectangular object measuring 20 x 20 x 13cm (8" x 8" x 5") with no more than 10 lb of force constitutes a failure by forcible entry.

CALIBRATED TEST EQUIPMENT:

- PT-172-068a Digital Stopwatch — Calibration Due Date: 06/09/2014
- PT-173-032 Digital Micrometer — Calibration Due Date: 10/22/2013

DISPOSAL:
The samples will be discarded thirty days from the date on this report unless further instructed by the client.

Respectfully submitted,

Tim Wells
Engineering Technician

Brian S. Escherich
Operations Manager