

FEENEY TEST REPORT

SCOPE OF WORK

FM 4473 IMPACT RESISTANCE TESTING OF AWNING

REPORT NUMBER

J7078.01-801-44-R0

TEST DATE

06/14/19

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08/20/19

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TEST REPORT FOR FEENEY

Report No.: J7078.01-801-44-R0

Date: 08/20/19

REPORT ISSUED TO FEENEY, INC.

2603 Union Street
Oakland, CA 94607

SECTION 1 SCOPE

Intertek Building & Construction (B&C) was contracted by Feeney, Inc. to perform impact resistance testing in accordance with FM 4473 on an awning. Results obtained are tested values and were secured by using the designated test method. Testing was conducted at Intertek B&C test facility in Plano, TX. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

SECTION 2 SUMMARY OF TEST RESULTS

Product Type: Metal-Framed Awning with 3/16" Polycarbonate Insert

Series/Model: Not Specified

Product Classification Achieved: Class 4

For INTERTEK B&C:

COMPLETED BY:	Fred Muñoz	REVIEWED BY:	Andy Cost
TITLE:	Project Manager	TITLE:	Lab Manager
SIGNATURE:		SIGNATURE:	
DATE:	08/20/19	DATE:	08/20/19

LFM:vtm/cm

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TEST REPORT FOR FEENEY

Report No.: J7078.01-801-44-R0

Date: 08/20/19

SECTION 3

TEST METHOD

The specimens were evaluated in accordance with the following:

ANSI/FM 4473 (2011), *Specification Test Standard for Impact Resistance Testing of Rigid Roofing Materials by Impacting with Freezer Ice Balls*. American National Standard, FM Approvals (January 2011).

SECTION 4

MATERIAL SOURCE/INSTALLATION

Test specimen was provided by the client. Representative samples of the test specimen will be retained by Intertek B&C for a minimum of four years from the test completion date.

Installation of the tested product was performed by Intertek. The 59" x 42-1/2" specimen was anchored to a 60" x 36" wood deck by bracing the awning against it and securing it in place with wooden battens fastened with #8 2-1/2" wood screws.

SECTION 5

EQUIPMENT

Cannon: Constructed from steel piping utilizing compressed air to propel the missile

Missile: 44.5 mm (1-3/4") diameter ice balls

Cannon Identification Number: 5469

Timing Device: Radar Gun

Timing Device Identification Number: INT01371

Timing Device Calibration Date: 12/12/19

SECTION 6

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Fred Muñoz	Intertek B&C
Andy Cost	Intertek B&C

TEST REPORT FOR FEENEY

Report No.: J7078.01-801-44-R0

Date: 08/20/19

SECTION 7

TEST SPECIMEN DESCRIPTION

Product Type: Metal-Framed Awning with 3/16" Polycarbonate Insert

Series/Model: Not Specified

Color: Brown

Finish: Metallic

Overall Assembly Size: 1,499 mm (59") width by 1,080 mm (42-1/2") length

Nominal Thickness: 4.8 mm (3/16")

Deck Construction

The wood test deck was 3' wide x 5' high and constructed with 2x4 pine construction lumber at the perimeter with one stud located at the midspan. The test deck was covered with 15/32" thick plywood decking secured to the test deck with #6 x 1-5/8" screws located 2" from each end and on 6" centers.

Specimen Construction

The awning was constructed out of a curved 3/16" clear polycarbonate panel mounted in a curved metal frame. The frame measured 59" (wide) x 42-1/2" (depth) by 12-1/2" (highest point).

TEST REPORT FOR FEENEY

Report No.: J7078.01-801-44-R0

Date: 08/20/19

SECTION 8

TEST RESULTS

FM 4473, Ice Ball Impact Resistance

Sample Conditioning Temperature: 22°C (72°F) for at least 4 hours

Sample Conditioning Relative Humidity: 30% for at least 4 hours

Ice Ball Conditioning Temperature: -23°C (-10°F) for at least 48 hours

Muzzle Distance from Test Specimen: 914 mm (36")

The ambient temperature during testing was 22°C (72°F). The results are tabulated as follows.

Test Unit #1

IMPACT	MISSILE VELOCITY m/s (fps)	ORIENTATION	WEIGHT g (lbs)	DIAMETER mm (in.)	ENERGY ft-lb	IMPACT AREA	OBSERVATIONS	RESULTS
1	32.7 (107.3)	Vertical	64.8 (0.143)	50.80 (2.00)	25.57	Top left corner, 6" from edges	No visible cracking or breakage	Pass
2	32.7 (107.3)	Vertical	64.3 (0.142)	50.80 (2.00)	25.37	Top left corner, 6" from edges	No visible cracking or breakage	Pass
3	32.7 (107.3)	Vertical	64.3 (0.141)	50.80 (2.00)	25.37	Left middle, 17" from left edge and 21" from bottom edge	No visible cracking or breakage	Pass
4	32.7 (107.3)	Vertical	63.9 (0.143)	50.80 (2.00)	25.21	Left middle, 17" from left edge and 21" from bottom edge	No visible cracking or breakage	Pass
5	32.7 (107.3)	Vertical	64.4 (0.142)	50.80 (2.00)	25.41	Bottom left corner, 6" from edges	No visible cracking or breakage	Pass
6	32.7 (107.3)	Vertical	64.4 (0.142)	50.80 (2.00)	25.41	Bottom left corner, 6" from edges	No visible cracking or breakage	Pass

TEST REPORT FOR FEENEY

Report No.: J7078.01-801-44-R0

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SECTION 9

CONCLUSION

The sample tested met the performance requirements set forth in the referenced test procedures for a Class 4.

SECTION 10

PHOTOGRAPH



Photo No. 1
Specimen Anchored to Test Deck
(Location of Impacts Shown by Numbers)



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TEST REPORT FOR FEENEY

Report No.: J7078.01-801-44-R0

Date: 08/20/19

SECTION 11

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	08/20/19	N/A	Original Report Issue