

TRULOG SIDING TEST REPORT

SCOPE OF WORK

FM 4473 IMPACT RESISTANCE TESTING OF TRULOG, STEEL SIDING

REPORT NUMBER

L4539.01-109-44

TEST DATE(S)

11/24/20

ISSUE DATE

02/12/21

RECORD RETENTION END DATE

11/24/24

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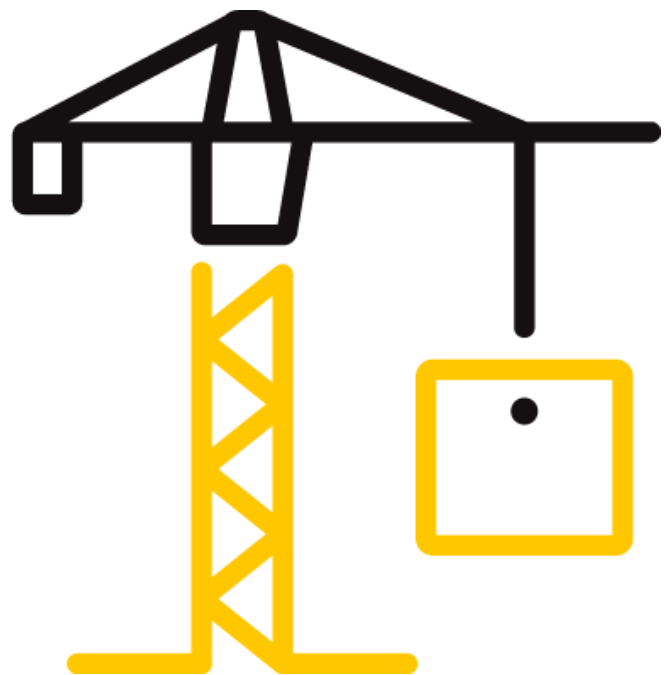
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TEST REPORT FOR TRULOG SIDING

Report No.: L4539.01-109-44

Date: 02/12/21

REPORT ISSUED TO

TRULOG SIDING

3543 County Road 5

Loveland, Colorado 80537

SECTION 1

SCOPE

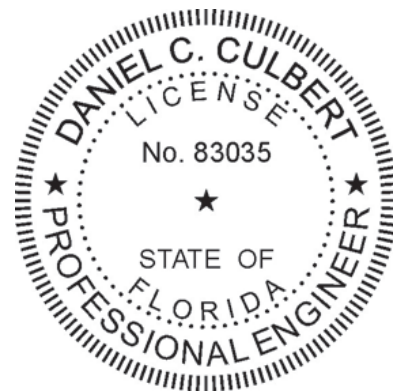
Intertek Building & Construction (B&C) was contracted by TruLog Siding to perform impact resistance testing in accordance with FM 4473 on their TruLog, steel siding. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at Intertek B&C test facility in York, Pennsylvania.

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

SECTION 2

SUMMARY OF TEST RESULTS

Product Classification Achieved: Class 4



For INTERTEK B&C:

COMPLETED BY: Robert J. Beatty

Technician –
Product Testing

TITLE:

SIGNATURE:


Digitally Signed by: Robert Beatty

DATE: 02/12/21

REVIEWED BY: Daniel C. Culbert, P.E.

TITLE: Senior Project Engineer

SIGNATURE:


Digitally Signed by: Daniel C. Culbert

DATE: 02/12/21

RJB:nls

2021.02.16 09:06:23 -05'00'

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TEST METHOD(S)

The specimen was 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(s) 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 B&C personnel.

SECTION 5

EQUIPMENT

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

Missile: 50.8 mm (2.0") diameter ice balls

Cannon Identification Number: A1207

Timing Device: Electronic Beam Type

Tape Measure Verification: 63788

Weather Station: 63316

SECTION 6

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
John A. Shanabrook	Intertek B&C
Timothy J. McGill	Intertek B&C
Daniel C. Culbert, P.E.	Intertek B&C
Robert J. Beatty	Intertek B&C

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TEST SPECIMEN DESCRIPTION

Product Type: Steel Siding

Series/Model: TruLog

Color: Brown

Finish: Woodgrain

Overall Assembly Size: 36 in (914 mm) width by 36 in (914 mm) length

Nominal Thickness: 0.02 in (0.5 mm)

Steel Skin Thickness: 0.02 in (0.5 mm)

Panel Description:

Individual Panel Weight: 2.24 lb (1016 g)

Individual Panel Size: 10 in (254 mm) width by 36 in (914 mm) length

Exposed Panel Size: 9-1/2 in (241 mm) width by 35-1/2 in (902 mm) length

Number of Panels: 4

Deck Construction:

The wood test deck was 3' (914.4 mm) wide by 3' (914.4 mm) high and was constructed from nominal 2x4 (50.8 mm x 101.6 mm) Spruce-Pine-Fir lumber with one stud located midspan. Nominal 15/32" (11.9 mm) plywood was secured to the deck using #8 x 1-5/8" (M4 x 41 mm) flat head screws spaced 8" (203.2 mm) on center.

Panel Construction:

The test specimens were composed of four courses horizontally installed with a male interlock at the bottom interfaced with a steel starter strip. The ends were covered with a J-channel segment along the length of the test wall. Each course had a panel consisting of a 0.02" thick steel panel with a woodgrain finish and Styrofoam backer.

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TEST RESULTS

FM 4473, Ice Ball Impact Resistance

Sample Conditioning Temperature: 63°F (17°C) for at least 4 hours

Sample Conditioning Relative Humidity: 23.9% for at least 4 hours

Ice Ball Conditioning Temperature: -7°F (-22°C) for at least 48 hours

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

The ambient temperature during testing was 65°F (18°C). The results are tabulated as follows.

Test Unit #1:

IMPACT	VELOCITY fps (m/s)	ORIENTATION	MISSILE			IMPACT AREA	OBSERVATIONS	RESULTS
			WEIGHT lbs (g)	DIAMETER in. (mm)	ENERGY ft-lb (j)			
1-1	105.4 (32.1)	15° of vertical	0.141 (64.0)	2.0 (50.8)	24.36 (33.0)	Center of panel	Dented panel, no visible cracking or breakage	Pass
1-2	107.6 (32.8)	15° of vertical	0.141 (64.0)	2.0 (50.8)	25.39 (34.4)	Center of panel	Dented panel, no visible cracking or breakage	Pass
2-1	107.1 (32.6)	15° of vertical	0.143 (65.0)	2.0 (50.8)	25.55 (34.6)	Center of panel between fasteners	Dented panel, no visible cracking or breakage	Pass
2-2	108.0 (32.9)	15° of vertical	0.139 (63.0)	2.0 (50.8)	25.18 (34.1)	Center of panel between fasteners	Dented panel, no visible cracking or breakage	Pass

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IMPACT	VELOCITY fps (m/s)	ORIENTATION	MISSILE			IMPACT AREA	OBSERVATIONS	RESULTS
			WEIGHT lbs (g)	DIAMETER in. (mm)	ENERGY ft-lb (j)			
3-1	109.3 (33.3)	15° of vertical	0.139 (63.0)	2.0 (50.8)	25.79 (35.0)	Upper corner on left edge of panel	Dented panel, no visible cracking or breakage	Pass
3-2	109.8 (33.5)	15° of vertical	0.139 (63.0)	2.0 (50.8)	26.03 (35.3)	Upper corner on left edge of panel	Dented panel, no visible cracking or breakage	Pass
4-1	110.0 (33.5)	15° of vertical	0.139 (63.0)	2.0 (50.8)	26.12 (35.4)	Lower left corner	Dented panel, no visible cracking or breakage	Pass
4-2	109.8 (33.5)	15° of vertical	0.139 (63.0)	2.0 (50.8)	26.03 (35.3)	Lower left corner	Dented panel, no visible cracking or breakage	Pass
5-1	110.0 (33.5)	15° of vertical	0.139 (63.0)	2.0 (50.8)	26.12 (35.4)	Bottom interlock between fasteners	Dented panel, no visible cracking or breakage	Pass
5-2	107.8 (32.9)	15° of vertical	0.141 (64.0)	2.0 (50.8)	25.48 (34.5)	Bottom interlock between fasteners	Dented panel, no visible cracking or breakage	Pass

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IMPACT	VELOCITY fps (m/s)	ORIENTATION	MISSILE			IMPACT AREA	OBSERVATIONS	RESULTS
			WEIGHT lbs (g)	DIAMETER in. (mm)	ENERGY ft-lb (j)			
6-1	108.5 (33.1)	15° of vertical	0.139 (63.0)	2.0 (50.8)	25.41 (34.5)	Top interlock between fasteners	Dented panel, no visible cracking or breakage	Pass
6-2	109.7 (33.4)	15° of vertical	0.139 (63.0)	2.0 (50.8)	25.98 (35.2)	Top interlock between fasteners	Dented panel, no visible cracking or breakage	Pass
7-1	109.9 (33.5)	15° of vertical	0.139 (63.0)	2.0 (50.8)	26.07 (35.3)	Right center edge of panel	Dented panel, no visible cracking or breakage	Pass
7-2	107.8 (32.9)	15° of vertical	0.139 (63.0)	2.0 (50.8)	25.09 (34.0)	Right center edge of panel	Dented panel, no visible cracking or breakage	Pass

Note 1: See Sketch No. 1 for impact locations.

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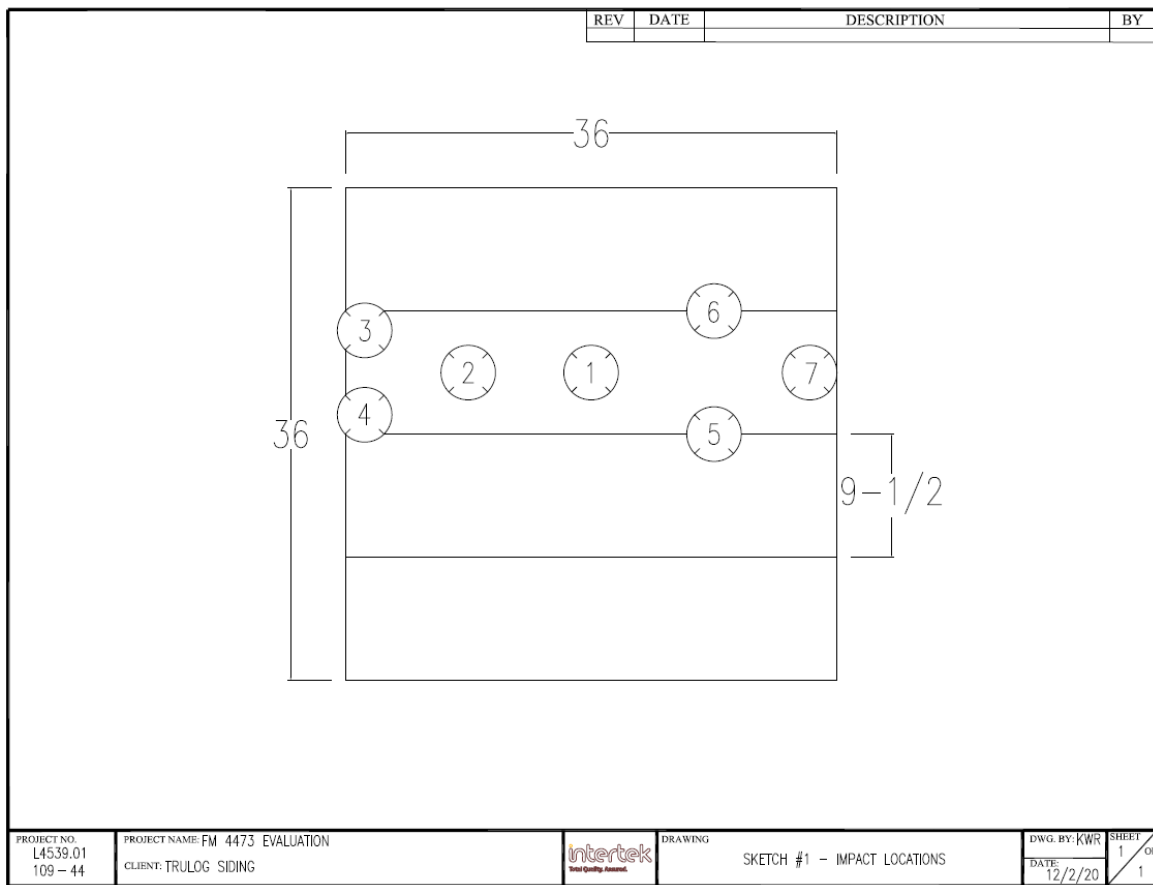
SECTION 9

CONCLUSION

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

SECTION 10

SKETCH(ES)



Sketch No. 1
Impact Locations

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SECTION 11

PHOTOGRAPH



Photo No. 1
TruLog, Steel Siding



Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

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Facsimile: 717-764-4129
www.intertek.com/building

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SECTION 12 DRAWINGS

The test specimen drawings have been reviewed by Intertek B&C and are representative of the test specimen(s) 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.



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SECTION 13

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	02/12/21	N/A	Original Report Issue