

WIMAR PERFORMANCE COATINGS, LLC TEST REPORT

SCOPE OF WORK

ANSI/FM 4473 IMPACT RESISTANCE TESTING OF CHEMICAL SHINGLE COVERING/ROOF TILES

REPORT NUMBER

P6284.01-109-44

TEST DATE(S)

02/21/23

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03/30/23

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TEST REPORT FOR WIMAR PERFORMANCE COATINGS, LLC

Report No.: P6284.01-109-44

Date: 03/30/23

REPORT ISSUED TO

WIMAR PERFORMANCE COATINGS, LLC

40 Industrial Park Drive

Franklin, New Hampshire 03235-0009

SECTION 1

SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by WIMAR Performance Coatings, LLC to perform impact resistance testing in accordance with FM 4473 on their Chemical Shingle covering. Results obtained are tested values and were secured by using the designated test method. Testing was conducted at Intertek B&C test facility in York Pennsylvania.

SECTION 2

SUMMARY OF TEST RESULTS

Product Classification Achieved: Class 4

For INTERTEK B&C:

COMPLETED BY:	Christopher E. Sartalis
TITLE:	Technician – Product Testing
SIGNATURE:	
DATE:	03/30/23

REVIEWED BY:	Timothy J. McGill
TITLE:	Senior Project Engineer – Product Testing
SIGNATURE:	
DATE:	03/30/23

CES:bsm

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SECTION 3

TEST METHOD(S)

The specimen was evaluated in accordance with the following:

ANSI/FM 4473-2011 (R2020), *American National Standard for Impact Resistance Testing of Rigid Roofing Materials by Impacting with Freezer Ice*

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.

SECTION 5

EQUIPMENT

Canon: Constructed from steel piping utilizing compressed air to propel the missile, A1207

Missile: 50.8 mm (2.0") diameter ice balls

Digital Scale: INT03059

Tape Measure Verification: 63788

Weather Station: 63316

SECTION 6

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Tyler J. Holland	Intertek B&C
Timothy J. McGill	Intertek B&C
Christopher E. Sartalis	Intertek B&C

SECTION 7

TEST SPECIMEN DESCRIPTION

Series/Model: Chemical Shingle Covering

Product Size(s):

OVERALL AREA:	WIDTH		LENGTH	
	millimeters	inches	millimeters	inches
3.0 m ² (32.0 ft ²)				
Overall size	2438	96	1219	48

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Test Specimen Description and Installation:

The test deck was constructed of an 8' x 4' piece of 3/4" plywood attached to 2 x 4 Spruce-Pine-Fir lumber around the perimeter to represent a supported roof structure. Tri-Flex XT underlayment was attached to the plywood using 1/2" cap staples approximately 5 - 6 inches on center around the perimeter and along the laps. 5" style E galvanized drip edge was utilized around the perimeter. Eight courses of IKO Cambridge Architectural Shingles were used along the test deck and fastened every 6" using 7/8" galvanized coil nails. The test deck was conditioned for 4 hours to set the adhesive strip on shingles. The WIMAR roof coating was applied at a 2 - 4 mil dry coating thickness across the test deck and then conditioned again for 4 hours to allow coating to cure.

SECTION 8

TEST RESULTS

FM 4473, Ice Ball Impact Resistance

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

Sample Conditioning Relative Humidity: 47% for at least 4 hours

Ice Ball Conditioning Temperature: -24°C (-11°F) for at least 48 hours

Muzzle Distance from Test Specimen: 1524 mm (60")

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The ambient temperature during testing was 17°C (63°F). The results are tabulated as follows:

IMPACT	VELOCITY m/s (fps)	ORIENTATION	MISSILE			IMPACT AREA	OBSERVATIONS	RESULTS
			WEIGHT g (lbs)	DIAMETER mm (in.)	ENERGY ft-lb			
1-1	32.5 (106.5)	15° of vertical	63.5 (0.140)	50.8 (2.0)	24.68	Vertical joint	No visible damage observed	Pass
1-2	32.0 (104.9)	15° of vertical	64.7 (0.143)	50.8 (2.0)	24.40	Vertical joint	Small indentation, no visible breakage or cracking	Pass
2-1	31.8 (104.4)	15° of vertical	63.9 (0.141)	50.8 (2.0)	23.86	Center of shingle	Indentation, no visible breakage or cracking	Pass
2-2	31.9 (104.6)	15° of vertical	67.2 (0.148)	50.8 (2.0)	25.19	Center of shingle	Indentation, no visible breakage or cracking	Pass
3-1	32.1 (105.3)	15° of vertical	68.3 (0.151)	50.8 (2.0)	25.95	Horizontal and vertical joint	No visible damage observed	Pass
3-2	32.3 (105.9)	15° of vertical	64.9 (0.143)	50.8 (2.0)	24.94	Horizontal and vertical joint	Small indentation, no visible breakage or cracking	Pass
4-1	32.2 (105.8)	15° of vertical	67.3 (0.148)	50.8 (2.0)	25.81	Horizontal joint	Small indentation, no visible breakage or cracking	Pass

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IMPACT	MISSILE					IMPACT AREA	OBSERVATIONS	RESULTS
	VELOCITY m/s (fps)	ORIENTATION	WEIGHT g (lbs)	DIAMETER mm (in.)	ENERGY ft-lb			
4-2	32.0 (104.9)	15° of vertical	65.4 (0.144)	50.8 (2.0)	24.66	Horizontal joint	No further damages observed	Pass
5-1	31.9 (104.7)	15° of vertical	66.8 (0.147)	50.8 (2.0)	25.09	Right edge of the shingle	Small indentation, no visible breakage or cracking	Pass
5-2	32.1 (105.4)	15° of vertical	64.9 (0.143)	50.8 (2.0)	24.70	Right edge of the shingle	Slight cracking on edge, small indentation, no puncture or fracture	Pass
6-1	32.0 (104.9)	15° of vertical	68.1 (0.150)	50.8 (2.0)	25.68	Center of shingle	Small indentation, no visible breakage or cracking	Pass
6-2	32.6 (107.1)	15° of vertical	63.2 (0.139)	50.8 (2.0)	24.84	Center of shingle	Indentation, no visible breakage or cracking	Pass

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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.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends four years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for the entire test record retention period.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

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SECTION 10 SKETCH

REV	DATE	DESCRIPTION	BY

IMPACT LOCATIONS

PROJECT NO. P6284.01 109 - 44	PROJECT NAME FM 4473 CLIENT: PERFORMANCE CHEMICAL, LLC.		DRAWING SKETCH #1 IMPACT LOCATIONS	DWG. BY TJM DATE 3/1/23	SHEET 1 OF 1
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**Sketch
Impact Locations**

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SECTION 11

PHOTOGRAPHS



Photo No. 1
Test Deck Prior to testing

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Photo No. 2
Location #1 after Impacts

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Photo No. 3
Location #2 after Impacts

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Photo No. 4
Location #3 after Impacts

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Photo No. 5
Location #4 after Impacts

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Photo No. 6
Location #5 after Impacts

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Photo No. 7
Location #6 after Impacts



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SECTION 12 DRAWINGS

Test specimen drawings were not supplied by the client.

SECTION 13 REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	03/30/23	N/A	Original Report Issue