

NATIONAL FOREST PRODUCTS LTD.

TEST REPORT

REPORT ISSUED TO

National Forest Products Ltd.
291 Boler Road
London, ON N6K 2J9
CANADA

SCOPE OF WORK

Report of testing National Forest Products Cedar Pinnacle Shingle Panel for compliance with the applicable requirements of the following criteria: **SFM Standard 12-7A-1 – Materials and Construction Methods for Exterior Wildfire Exposure – Exterior Wall Siding and Sheathing.**

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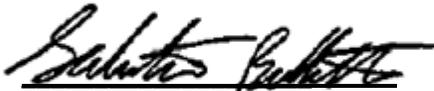
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CONCLUSION

The samples of National Forest Products Cedar Pinnacle Shingle Panel submitted by National Forest Products Ltd. were tested in accordance with **SFM Standard 12-7A-1 – Materials and Construction Methods for Exterior Wildfire Exposure – Exterior Wall Siding and Sheathing.**

The product test results are presented in Section 6 of this report.



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SECTION 1

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SECTION 2

OBJECTIVE

Intertek Testing Services NA Ltd. (Intertek) has conducted testing for National Forest Products Ltd. on their Cedar Pinnacle Shingle Panel to evaluate flammability characteristics and the performance of exterior walls of structures when exposed to direct flames. Testing was conducted in accordance with **SFM Standard 12-7A-1 – Materials and Construction Methods for Exterior Wildfire Exposure – Exterior Wall Siding and Sheathing**. The purpose of this test was to measure the ability of the wall system to resist fire penetration from the exterior to the unexposed side of the test assembly under the conditions of exposure.

Testing was conducted on January 9, 2020 and completed on January 21, 2020.

SECTION 3

SAMPLE SELECTION

Intertek representative Joseph DeRose witnessed construction of the tested Cedar Pinnacle Shingle Panels on December 2, 2019 at the client's facility located at 291 Boler Road London, ON N6K 2J9. The inspector initialed panels were received at the test facility on December 10, 2019.

SECTION 4

SAMPLE ASSEMBLY AND DESCRIPTION

The sample materials consisted of Cedar Pinnacle Shingle Panels pre-installed onto a wall assembly that measured approximately 48 in. x 96 in.

The test sample underwent the final stages of construction by National Forest Products Ltd. representative Harry Barnes at the Intertek testing laboratory Coquitlam facility in accordance with client's instruction. Intertek accepts no responsibility for any inaccuracies provided.

Wall Construction

Overall finished wall size measured 4 ft. x 8 ft. Single plate header, single bottom plate, and studs are consisted of 2 in. x 4 in. SPF lumber spaced 24 in. on center and fastened with common construction framing screws. Sheathing consisted of standard 11.1 mm. (7/16 in.) OSB fastened with 2 in. common construction screws spaced roughly 12 in. on center. Standard generic building wrap was installed directly onto the OSB sheathing prior to underlayment installation. Two layers of GAF VersaShield underlayment was installed directly on top of the house wrap with an 18 in. horizontal overlap (creating the double layer) and stapled down at each corner to secure it in place prior to panel installation. National Forest Products Cedar Pinnacle Shingle Panels were then installed directly on top of the fireguard underlayment. Each panel was screwed through the layers of VersaShield and house wrap, and into sheathing and studs with 2 in. construction screws, using a total of 3 screws per panel (one on each end, and one on through the center stud).

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Unexposed Face

Unexposed face consisted of the empty cavities of the 24 in. on center stud and rear face of the 7/16 in. OSB Sheathing

Exposed Face

Only product visible on the exposed face consisted of the installed Cedar Pinnacle Shingle Panels.

SECTION 5

TESTING AND EVALUATION METHODS

The Fire Test

The exterior wall siding and sheathing test was conducted in accordance with SFM Standard 12-7A-1. Three (3) test specimens, measuring 4 ft. x 8 ft. (1.2 m x 2.4 m), were constructed to fit into the test apparatus.

A 4 in. x 39 in. (100 mm. x 1000 mm.) gas diffusion burner was calibrated to produce 150 ± 8 kW by using a calibrated gas mass flowmeter. The burner was placed on the test apparatus and centered with respect to the width of the assembly. The distance from the floor to the top of the burner was 12 in. (300 mm). The bottom of the test specimen was protected from burner fire exposure by the placement of a 4 ft. (1220 mm.) wide thermal barrier consisting of non-combustible cement board between the burner enclosure and the test specimen. The thermal barrier extended 3 in. above the top edge of the burner and was fastened to the base of the test specimen wall in such a manner to prevent obstruction of the burner flame caused by distortion away from the surface of the wall.

Non-combustible mineral wool blanket was installed to prevent flame penetration where the edges of the test assembly meet the test apparatus assembly (including above the panel and along its vertical perimeters). All tests were conducted in ambient airflow conditions.

The burner was maintained in its test position until either flame penetration occurred or the 10 minute test period was completed. The exterior siding assembly was observed for an additional 60 minutes or until all combustion ceased.

The conditions of acceptance per SFM Standard 12-7A-1 are the following:

1. Absence of flame penetration through the wall assembly at any time
2. Absence of evidence of glowing combustion on the interior surface of the assembly at the end of the 70-minute test duration. *(Please refer to test observations for actual test durations).*

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SECTION 6**RESULTS AND OBSERVATIONS****Test Observations****Test 1**

Time	Observation
0:00	Start of test.
0:25	Crackling and discolouration
4:00	Entire surface charred.
10:00	Burner stopped. Flaming continues on surface.
11:40	Ignition remains in the middle. Smoke released.
22:09	Light glowing and flaming continue. Flaming at lower middle.
27:16	Minor flaming bottom/middle. Smoke continues.
36:42	Only minor glowing on surface remains.
43:00	Reduction in smoke and glowing.
61:00	All signs of combustion ceased. End of test declared.

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Test 2

Time	Observation
0:00	Start of test.
0:30	Ignition on surface.
1:12	Surface discoloured. Flaming increased on surface.
3:00	Surface charred. Flaming decreased.
4:14	Flaming at top; reignition.
9:00	Increased flaming on surface.
10:00	Burner stopped. Flaming on surface continues.
13:12	Flaming at middle of sample.
18:15	Only minor glowing on surface remains besides middle flaming.
27:05	Only flaming remaining on mid-right.
31:23	Glowing remaining at mid-right. Smoke released along stud on backside.
37:50	Pin holes forming on backside.
40:05	Re-ignition at mid-right. Hot spots forming on backside.
51:25	Hot spot increasing in size and char.
61:45	No flaming or glowing on surface. Hot spots continue.
70:00	End of test.

Test 3

Time	Observation
0:00	Start of test.
0:30	Ignition on surface.
1:00	Surface discoloured.
5:35	Flaming on surface reduced.
10:00	Burner stopped. Flaming on surface continues.
14:00	Flaming remains on lower left.
25:32	Flaming continues.
28:00	Pin holes forming on backside.
30:30	Panelling falling away as it burns.
37:00	Flaming continues at mid-left. Hole formed at hot spot at right on backside.
46:45	Flaming on surface continues. Hot spots increase on back side.
52:22	Flaming remains lower left.
56:00	Flaming at lower mid.
68:00	Minor flaming on surface. Hot spots reducing.
70:00	End of test.

(B) Test Results

Test	Requirement	Result
1	No evidence of glowing combustion at 70 minutes.	Pass
2		Pass
3		Pass

SECTION 7

CONCLUSION

Intertek Testing Services NA (Intertek) has conducted testing for National Forest Products Ltd. on their Cedar Pinnacle Shingle Panel to evaluate flammability characteristics and the performance of exterior walls of structures when exposed to direct flames. Testing was conducted in accordance with **SFM Standard 12-7A-1 – Materials and Construction Methods for Exterior Wildfire Exposure – Exterior Wall Siding and Sheathing.**

The conclusions of this test report may be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

SECTION 8

APPENDIX A: TEST PICTURES (3 PAGES)

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Test 1



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Test 2



Date: January 24, 2020

Test 3



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REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	01/24/2020	13	Original Report Issue