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NATIONAL FOREST PRODUCTS LTD.
TEST REPORT

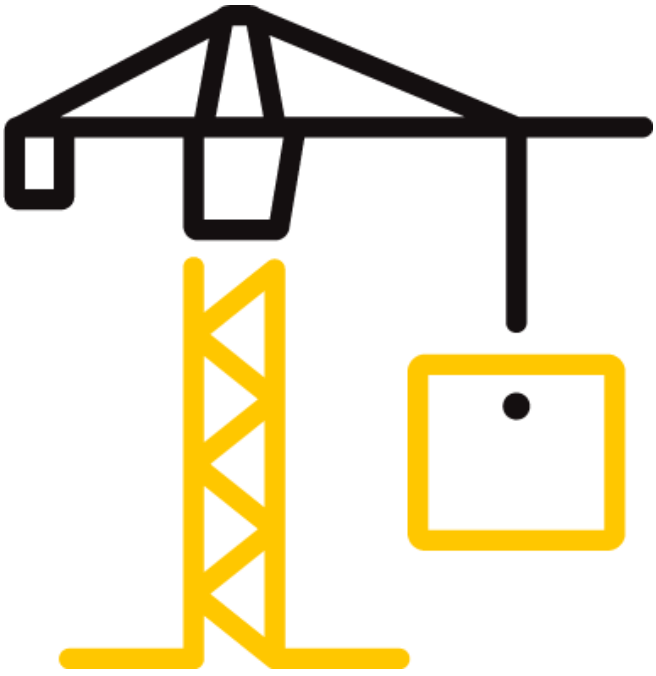
SCOPE OF WORK
REPORT OF TESTING 8 IN. WIDE CEDAR PINNACLE SHINGLE PANELS FOR COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE FOLLOWING CRITERIA: CAN/ULC S102-18, STANDARD METHOD OF TEST FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS AND ASSEMBLIES.

REPORT NUMBER
104146525COQ-003 R0
TEST DATE(S)
01/23/20 - 01/23/20

ISSUE DATE
01/24/20

PAGES
16

DOCUMENT CONTROL NUMBER
GFT-OP-10c (AUGUST 27, 2018)



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TEST REPORT FOR NATIONAL FOREST PRODUCTS LTD.
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Date: 01/24/20

REPORT ISSUED TO

NATIONAL FOREST PRODUCTS LTD
291 BOLER ROAD
LONDON, ON N6K 2J9
CANADA

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by National Forest Products Ltd. to perform testing in accordance with CAN/ULC S102-18, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies., on their 8 in. wide Cedar Pinnacle Shingle Panels. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at Intertek Testing Services NA Ltd. (Intertek) test facility in Coquitlam, BC Canada.

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

SECTION 2

SUMMARY OF TEST RESULTS

The samples 8 in. wide Cedar Pinnacle Shingle Panels were tested in accordance with CAN/ULC S102-18, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

The product test results are presented in Section 10 of this report.

For INTERTEK B&C:

COMPLETED BY:	Sean Fewer	**REVIEWED BY:**	Greg Philp
TITLE:	Technician – B&C	**TITLE:**	Reviewer- B&C
SIGNATURE:		**SIGNATURE:**	
DATE:	01/24/20	**DATE:**	01/24/20

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SECTION 3
TEST METHOD(S)

The specimens were evaluated in accordance with the following:

CAN/ULC S102-18, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

SECTION 4
MATERIAL SOURCE/INSTALLATION

Intertek representative Joe DeRose selected test samples on December 2, 2019 at the client's facility located at 300 West Street S Orillia, ON Canada. The inspector initialed material was received at the test facility on December 10, 2019.

SECTION 5
EQUIPMENT

ASSET #	DESCRIPTION	MODEL	CAL DUE DATE
WH2189	Photocell	Huygen 856	11/27/20
WH 2190	Smoke Opacity Meter	Huygen	11/27/20
WH 2494	Data Logger	Yokogawa DA100	07/18/20

SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Sean Fewer	Intertek B&C
Greg Philp	Intertek B&C

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SECTION 7
TEST CALCULATIONS

The results of the tests are expressed by indexes, which compare the characteristics of the sample under tests relative to that of select grade red oak flooring and inorganic-cement board.

(A) Flame Spread Rating:

This index relates to the rate of progression of a flame along a sample in the 25 foot tunnel. A natural gas flame is applied to the front of the sample at the start of the test and drawn along the sample by a draft kept constant for the duration of the test. An observer notes the progression of the flame front relative to time.

The test apparatus is calibrated such that the flame front for red oak flooring passes out the end of the tunnel in five minutes, thirty seconds (plus or minus 15 seconds).

(B) Smoke Developed:

A photocell is used to measure the amount of light, which is obscured by the smoke passing down the tunnel duct. When the smoke from a burning sample obscures the light beam, the output from the photocell decreases. This decrease with time is recorded and compared to the results obtained for red oak, which is defined to be 100.

SECTION 8
TEST SPECIMEN DESCRIPTION

Upon receipt of the samples at the Intertek Coquitlam laboratory they were placed in a conditioning room where they remained in an atmosphere of 23 $\pm$ 3°C (73.4 $\pm$ 5°F) and 50 $\pm$ 5% relative humidity.

The sample material was identified by the client as 8 in. wide Cedar Pinnacle Shingle Panels measuring ¾ in. thick by 8 in. wide by 8 ft. long.

Samples measuring 8 in. wide by 8 ft. long were screwed together to form 24 in. wide by 8 ft. long test decks. For each trial run, three 8 ft. long test decks were butted together end to end and placed on the upper ledge of the flame spread tunnel to form the required 24 ft. sample length. A layer of 6 mm reinforced cement board was placed over top of the samples, the tunnel lid was lowered into place, and the samples were then tested in accordance with CAN/ULC S102-18.

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SECTION 9
TEST RESULTS

(A) Flame Spread

The resultant flame spread ratings are as follows:
(Rating rounded to nearest 5)

8 in. wide Cedar Pinnacle Shingle Panels	Flame Spread	Flame Spread Rating
Run 1	82	60
Run 2	45	
Run 3	55	

(B) Smoke Developed

The areas beneath the smoke developed curve and the related classifications are as follows:
(Classification rounded to nearest 5)

8 in. wide Cedar Pinnacle Shingle Panels	Smoke Developed	Smoked Developed Classification
Run 1	72	95
Run 2	81	
Run 3	126	

(C) Observations

During the tests, the sample surface ignited at approximately 19 to 22 seconds; the flame began to progress along the sample until it reached the maximum flame spread.

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SECTION 10
CONCLUSION

The samples of 8 in. wide Cedar Pinnacle Shingle Panels submitted by National Forest Products Ltd. exhibited the following flame spread characteristics when tested in accordance with CAN/ULC S102-18, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

A series of three test runs of material was conducted to conform to the requirements of the National Building Code of Canada.

Sample Material	Flame Spread Rating	Smoke Developed Classification
8 in. wide Cedar Pinnacle Shingle Panels	60	95

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.

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SECTION 11

TEST DATA (6 PAGES)

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Date: 01/24/20

CAN/ULC S102-18 DATA SHEETS
Run 1

Standard: ULC S102

Client: National Forest products
Date: 01 23 2020
Project Number: 104146525
Test Number: 1
Operator: Sean Fewer

Specimen ID: Cedar Pinacle panel siding

TEST RESULTS

FLAMESPREAD INDEX: 80

SMOKE DEVELOPED INDEX: 70

SPECIMEN DATA . . .

Time to Ignition (sec): 19
Time to Max FS (sec): 317
Maximum FS (mm): 5770.2
Time to 527 C (sec): Never Reached
Time to End of Tunnel (sec): 318
Max Temperature (C): 353
Time to Max Temperature (sec): 513
Total Fuel Burned (cubic feet): 45.70

FS*Time Area (M*min): 39.5
Smoke Area (%A*min): 114.1
Unrounded FSI: 82.0
Unrounded SDI: 72.5

CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 48.0
Red Oak Smoke Area (%A*min): 157.5

Tested By: SF

Reviewed By:

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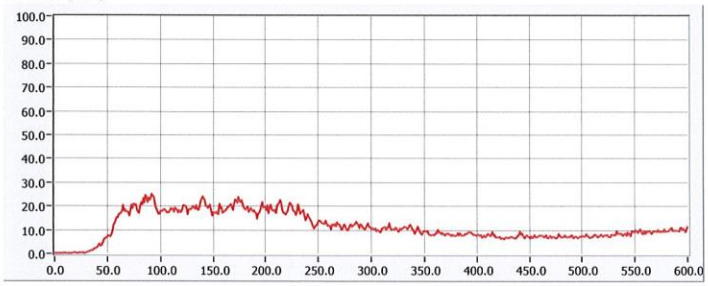
CAN/ULC S102-18 DATA SHEETS
Run 1

Client: National Forest products Specimen ID: Cedar Pinacle panel siding

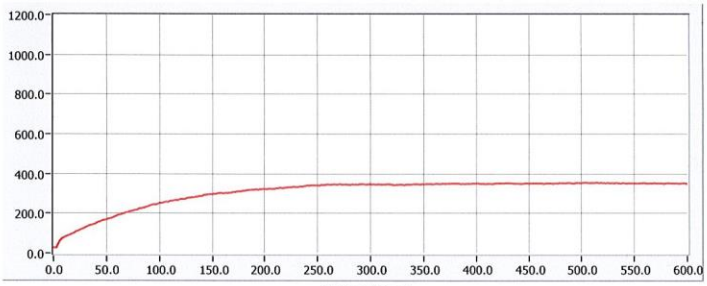
Test No.: 1 Standard: ULC S102

FLAME SPREAD (MM)

Smoke (%A)



Temperature (°C)



Time (sec)

600

Tested By: SF Reviewed By:

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CAN/ULC S102-18 DATA SHEETS
Run 2

Standard: ULC S102

Client: National Forest Products
Date: 01 23 2020
Project Number: 104146525
Test Number: 2
Operator: Sean Fewer

Specimen ID: Cedar Pinacle panel siding

TEST RESULTS

FLAMESPREAD INDEX: 45

SMOKE DEVELOPED INDEX: 80

SPECIMEN DATA . . .

Time to Ignition (sec): 19
Time to Max FS (sec): 221
Maximum FS (mm): 2923.1
Time to 527 C (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (C): 362
Time to Max Temperature (sec): 449
Total Fuel Burned (cubic feet): 45.70

FS*Time Area (M*min): 24.5
Smoke Area (%A*min): 127.6
Unrounded FSI: 45.3
Unrounded SDI: 81.0

CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 48.0
Red Oak Smoke Area (%A*min): 157.5

Tested By: SF

Reviewed By:

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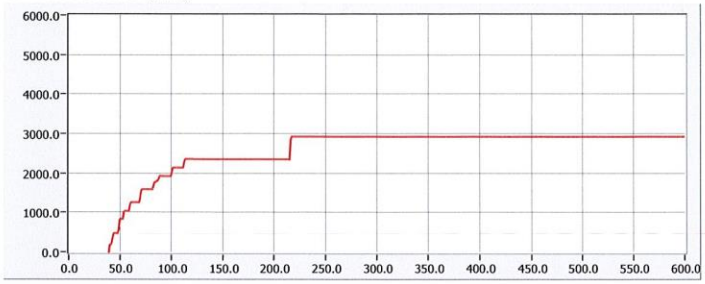
CAN/ULC S102-18 DATA SHEETS
Run 2

Client: National Forest Products Specimen ID: Cedar Pinacle panel siding

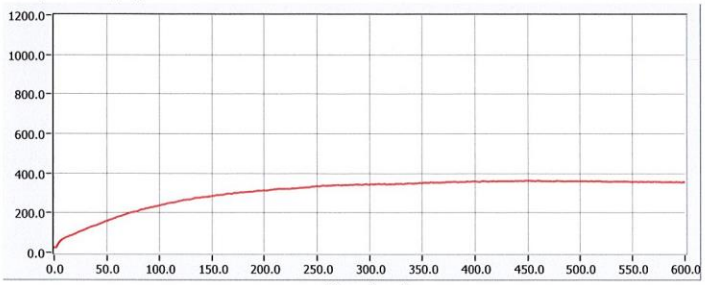
Test No.: 2 Standard: ULC S102

FLAME SPREAD (MM)



Smoke (%A)

Temperature (°C)



Time (sec)

600

Tested By: SF Reviewed By: _____

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CAN/ULC S102-18 DATA SHEETS
Run 3

Standard: ULC S102

Client: National Forest Products
Date: o1 23 2020
Project Number: 104146525
Test Number: 3
Operator: Sean Fewer

Specimen ID: Cedar Pinacle panel siding

TEST RESULTS

FLAMESPREAD INDEX: 55
SMOKE DEVELOPED INDEX: 125

SPECIMEN DATA . . .

Time to Ignition (sec): 22
Time to Max FS (sec): 322
Maximum FS (mm): 3944.3
Time to 527 C (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (C): 408
Time to Max Temperature (sec): 413
Total Fuel Burned (cubic feet): 45.70

FS*Time Area (M*min): 29.9
Smoke Area (%A*min): 198.7
Unrounded FSI: 55.5
Unrounded SDI: 126.2

CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 48.0
Red Oak Smoke Area (%A*min): 157.5

Tested By: SF

Reviewed By:

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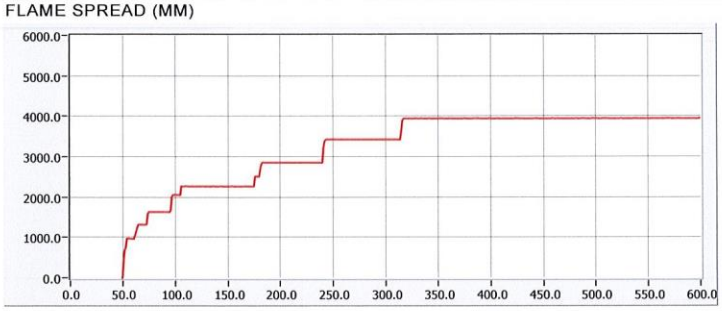
CAN/ULC S102-18 DATA SHEETS
Run 3

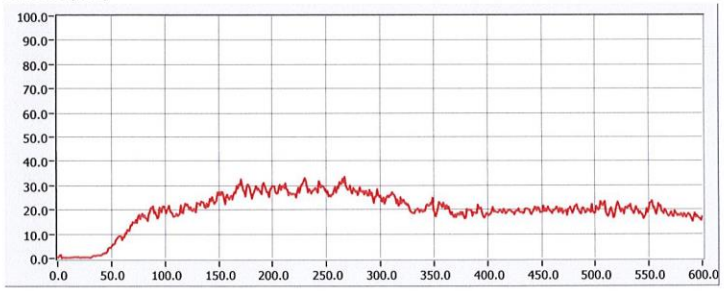
Client: National Forest Products Specimen ID: Cedar Pinacle panel siding

Test No.: 3 Standard: ULC S102

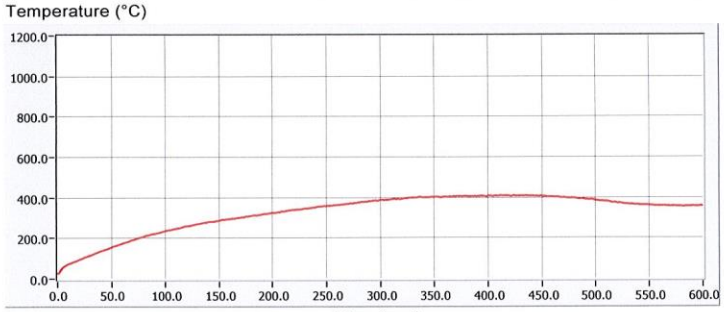
FLAME SPREAD (MM)



Smoke (%A)



Temperature (°C)



Time (sec)

600

Tested By: SF Reviewed By:

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SECTION 12
PHOTOGRAPHS

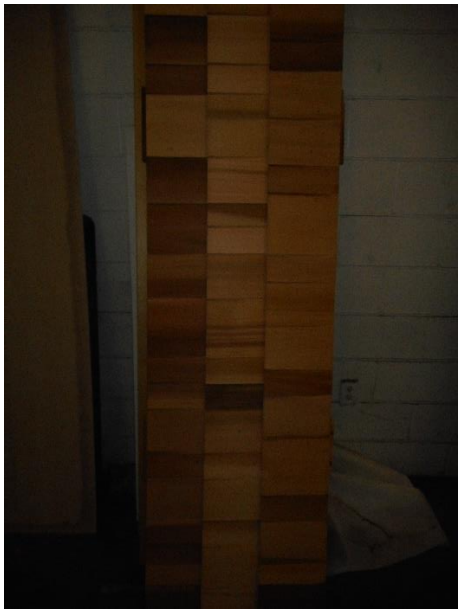

Photo No. 1
Pre-Test

Photo No. 2
Post-Test

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SECTION 13
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	01/24/20	N/A	Original Report Issue