TEST REPORT

REPORT NUMBER: 100800830COQ-008(b)
ORIGINAL ISSUE DATE: July 11, 2012

EVALUATION CENTER
Intertek Testing Services NA Ltd.
1500 Brigantine Drive
Coquitlam, B.C. V3K 7C1

RENDERED TO

MSW Canadian Plastics Inc.
585 Maitland Avenue South
Listowel ON M4W 2M7

PRODUCT EVALUATED: PVC Planks
EVALUATION PROPERTY: Surface Burning Characteristics

Report of testing Norlock PVC Planks for compliance with the applicable requirements of the following criteria: CAN/ULC S102.2-10, *Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials and Assemblies.*

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2 Introduction

Intertek Testing Services NA Ltd. (Intertek) has conducted testing for MSW Canadian Plastics Inc., to evaluate the surface burning characteristics of PVC planks. Testing was conducted in accordance with the standard methods of CAN/ULC S102.2-10, *Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials and Assemblies.*

This evaluation began July 6, 2012 and was completed the same day.

3 Test Samples

3.1. SAMPLE SELECTION

Samples were submitted to Intertek directly from the client and were not independently selected for testing. The sample material was received at the Evaluation Center on July 4, 2012.

3.2. SAMPLE AND ASSEMBLY 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 ± 3°C (73.4 ± 5°F) and 50 ± 5% relative humidity.

The sample product was identified by the client as Norlock PVC Planks measuring 1 3/8 in. thick by 9 in. wide by 8 ft long. The tongue and groove planks are of a hollow core design and are white in colour.

For each trial run six 9 in wide by 8 ft long samples were fitted together and cut down to make up the required 17 ½ in. width and 24 ft length and then placed on the floor of the tunnel. A layer of 6mm reinforced cement board was placed on the upper ledge of the tunnel, the tunnel lid was lowered into place, and the samples were then tested in accordance with CAN/ULC S102.2-10.

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4 Testing and Evaluation Methods

4.1. TEST STANDARD

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 Classification:

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.

5 Testing and Evaluation Results

5.1. RESULTS AND OBSERVATIONS

(A) Flame Spread

The resultant flame spread classifications are as follows:
(Classification rounded to nearest 5)

Norlock PVC Planks	Flame Spread	Flame Spread Classification
Run 1	6	10
Run 2	9	
Run 3	12	

(B) Smoke Developed

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

Norlock PVC Planks	Smoke Developed	Smoked Developed Classification
Run 1	302	440
Run 2	504	
Run 3	512	

(C) Observations

The sample material ignited at approximately 171 to 181 seconds, the flame began to progress along the sample until it reached the maximum flame spread. This was the case for all three test runs.

6 Conclusion

The samples of Norlock PVC Planks, submitted by MSW Canadian Plastics, exhibited the following flame spread characteristics when tested in accordance with CAN/ULC S102.2-10, *Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials and Assemblies.*

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

Sample	Flame Spread Classification	Smoke Developed Classification
Norlock PVC Planks	10	440

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

INTERTEK TESTING SERVICES NA LTD.

Tested and
Reported by: _____
Greg Philp
Technician – Building Products

Reviewed by: _____
Scott Leduc, EIT
Test Engineer – Building Products

GP

APPENDIX A

DATA SHEETS

CAN/ULC S102.2-10 DATA SHEETS
Run 1

Page 1 of 2

Standard: Canadian ULC S102.2

Client: MSW Canadian Plastics
Date: 07 06 2012
Project Number: 100800830
Test Number: 1
Operator: Greg p

Specimen ID: 1 1/4 in thick Norlock PVC Panels

TEST RESULTS

FLAMESPREAD INDEX: 5

SMOKE DEVELOPED INDEX: 300

SPECIMEN DATA . . .

Time to Ignition (sec): 177
Time to Max FS (sec): 440
Maximum FS (mm): 723.7
Time to 527 C (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (C): 268
Time to Max Temperature (sec): 493
Total Fuel Burned (cubic feet): 38.44

FS*Time Area (M*min): 3.2
Smoke Area (%A*min): 409.7
Unrounded FSI: 5.9
Unrounded SDI: 302.3

CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 46.0
Red Oak Smoke Area (%A*min): 135.5

Tested By: _____ Reviewed By: _____

CAN/ULC S102.2-10 DATA SHEETS
Run 1

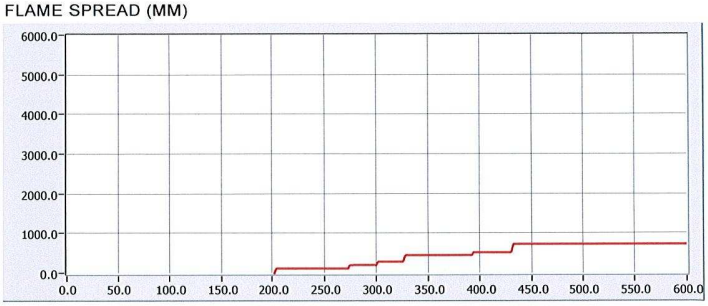
Client: MSW Canadian Plastics

Specimen ID: 1 1/4 in thick Norlock PVC Panels

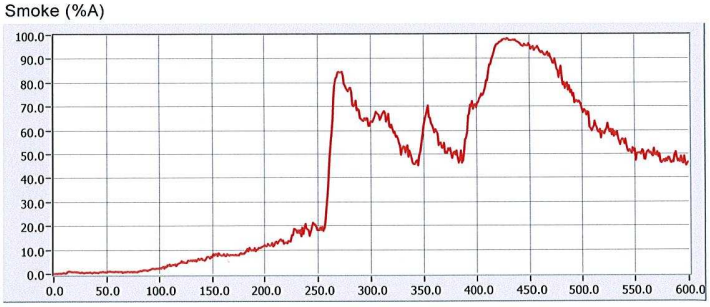
Test No.: 100800830

Standard: Canadian ULC S102.2

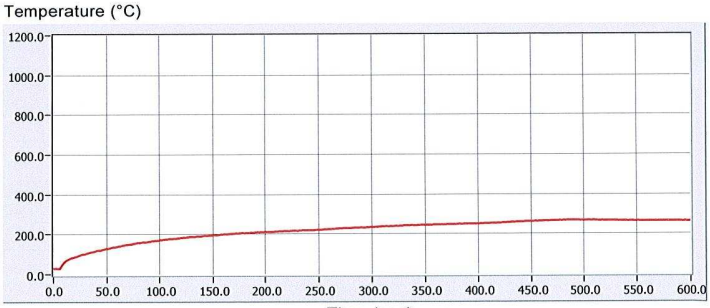
FLAME SPREAD (MM)



Smoke (%A)



Temperature (°C)



Time (sec)

600

Tested By: _____

Reviewed By: _____

CAN/ULC S102.2-10 DATA SHEETS
Run 2

Standard: Canadian ULC S102.2

Page 1 of 2

Client: MSW Canadian Plastics
Date: 07 06 2012
Project Number: 100800830
Test Number: 2
Operator: Greg Philp

Specimen ID: 1 1/4 in thick Norlock Pvc Planks

TEST RESULTS

FLAMESPREAD INDEX: 10

SMOKE DEVELOPED INDEX: 505

SPECIMEN DATA . . .

Time to Ignition (sec): 174
Time to Max FS (sec): 540
Maximum FS (mm): 1016.5
Time to 527 C (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (C): 372
Time to Max Temperature (sec): 600
Total Fuel Burned (cubic feet): 38.44

FS*Time Area (M*min): 5.0
Smoke Area (%A*min): 683.3
Unrounded FSI: 9.2
Unrounded SDI: 504.3

CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 46.0
Red Oak Smoke Area (%A*min): 135.5

Tested By: _____ Reviewed By: _____

CAN/ULC S102.2-10 DATA SHEETS
Run 2

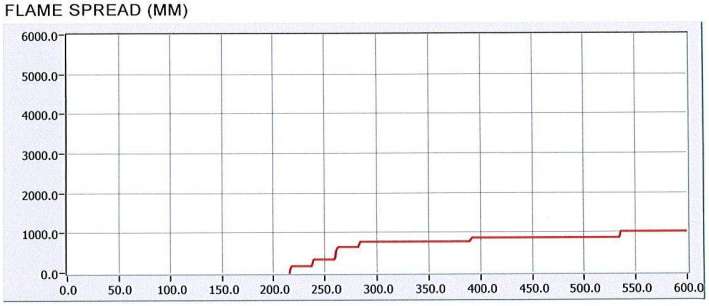
Client: MSW Canadian Plastics

Specimen ID: 1 1/4 in thick Norlock Pvc Planks

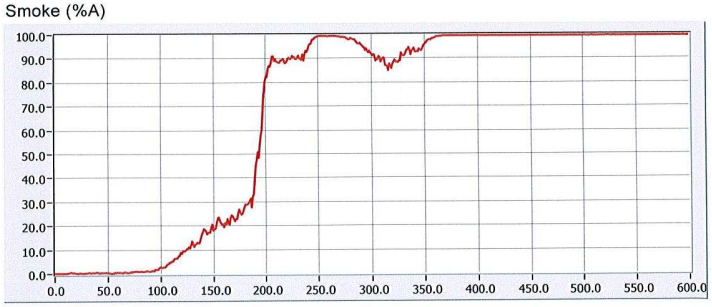
Test No.: 100800830

Standard: Canadian ULC S102.2

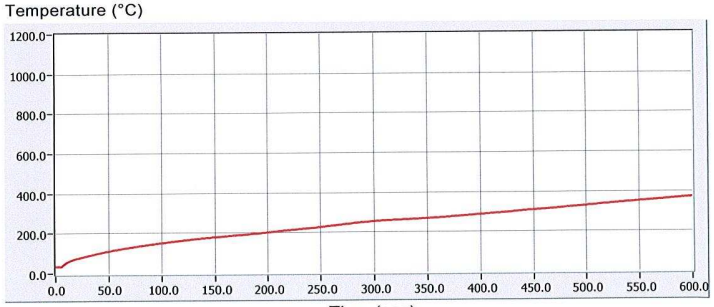
FLAME SPREAD (MM)



Smoke (%A)



Temperature (°C)



Time (sec)

600

Tested By: _____

Reviewed By: _____

CAN/ULC S102.2-10 DATA SHEETS
Run 3

Standard: Canadian ULC S102.2

Client: MSW Canadian Plastics
Date: 07 06 2012
Project Number: 100800830
Test Number: 3
Operator: Greg Philp

Specimen ID: 1 1/4 in thick Norlock PVC Planks

TEST RESULTS

FLAMESPREAD INDEX: 10

SMOKE DEVELOPED INDEX: 510

SPECIMEN DATA . . .

Time to Ignition (sec): 181
Time to Max FS (sec): 529
Maximum FS (mm): 1746.3
Time to 527 C (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (C): 333
Time to Max Temperature (sec): 600
Total Fuel Burned (cubic feet): 38.44

FS*Time Area (M*min): 6.4
Smoke Area (%A*min): 693.1
Unrounded FSI: 11.9
Unrounded SDI: 511.5

CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 46.0
Red Oak Smoke Area (%A*min): 135.5

Tested By: _____ Reviewed By: _____

CAN/ULC S102.2-10 DATA SHEETS
Run 3

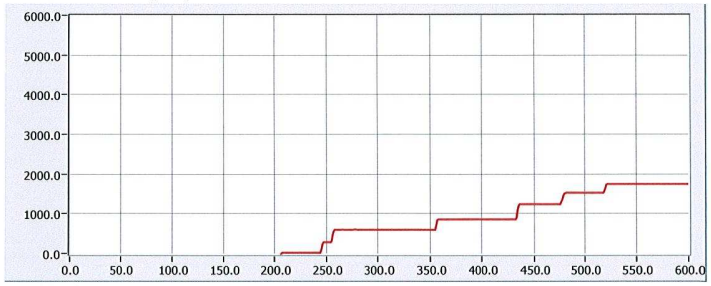
Client: MSW Canadian Plastics

Specimen ID: 1 1/4 in thick Norlock PVC Planks

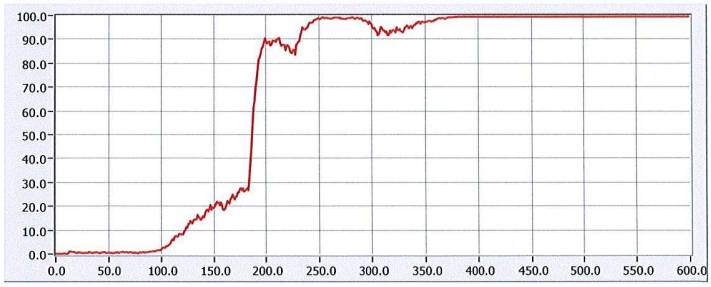
Test No.: 100800830

Standard: Canadian ULC S102.2

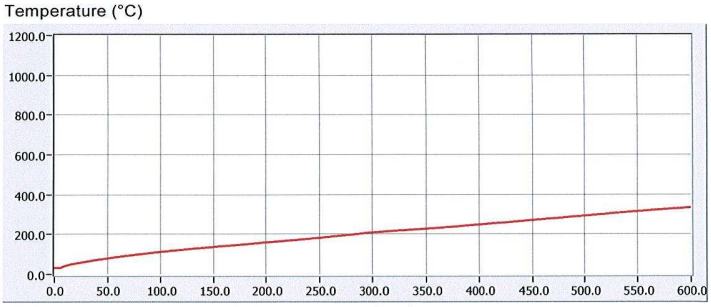
FLAME SPREAD (MM)



Smoke (%A)



Temperature (°C)



Time (sec)

600

Tested By: _____

Reviewed By: _____

REVISION SUMMARY

DATE	PAGE(S)	SUMMARY
July 11, 2012	All	Original Issue Date