TEST REPORT

REPORT NUMBER: 101259326COQ-002
ORIGINAL ISSUE DATE: August 30, 2013
REVISION DATE: September 4, 2013

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

RENDERED TO

MSW Canadian Plastics Inc.
PO BOX 29 140 Minto Road
Palmerston, ON N0G 2P0

PRODUCT EVALUATED: Corrugated PVC Panels
EVALUATION PROPERTY: Surface Burning Characteristics

Report of testing Corrugated PVC Panels 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.*

1 Table of Contents

2 Introduction

Intertek Testing Services NA Ltd. (Intertek) has conducted testing for MSW Canadian Plastics Inc., to evaluate the surface burning characteristics of Corrugated PVC panels. 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 August 29, 2013 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 August 6, 2013.

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 Ribcore Corrugated PVC panels measuring 0.03 in. thick by 17 ½ in wide by 6 ft long and are white in colour

For each trial run four 6 ft panels were fitted together to form the required 24 ft length of sample material 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.

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)

Ribcore Corrugated PVC Panels	Flame Spread	Flame Spread Classification
Run 1	3	5
Run 2	4	
Run 3	6	

(B) Smoke Developed

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

Ribcore Corrugated PVC Panels	Smoke Developed	Smoked Developed Classification
Run 1	14	20
Run 2	18	
Run 3	27	

(C) Observations

The sample material ignited at approximately 80 to 150 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 Ribcore Corrugated PVC Panels, 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
Ribcore Corrugated PVC Panels	5	20

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

Standard: Canadian ULC S102.2

Page 1 of 2

Client: MSW Canadian Plastics
Date: 08 29 2013
Project Number: 101259326
Test Number: 1
Operator: Greg Philp

Specimen ID: Ribcore Panels Corrugated PVC Panel

TEST RESULTS

FLAMESPREAD INDEX: 0

SMOKE DEVELOPED INDEX: 15

SPECIMEN DATA . . .

Time to Ignition (sec): 150
Time to Max FS (sec): 467
Maximum FS (mm): 306.6
Time to 527 C (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (C): 249
Time to Max Temperature (sec): 597
Total Fuel Burned (cubic feet): 44.00

FS*Time Area (M*min): 1.4
Smoke Area (%A*min): 22.7
Unrounded FSI: 2.5
Unrounded SDI: 13.5

CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 44.0
Red Oak Smoke Area (%A*min): 168.3

Tested By: _____

Reviewed By: _____

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

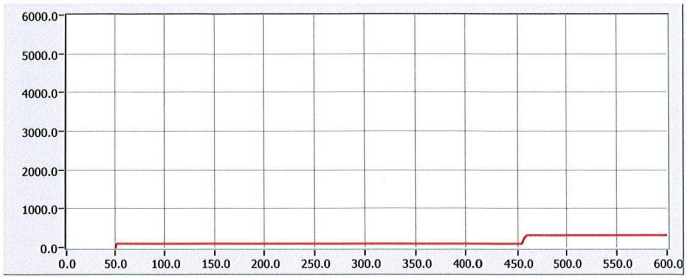
Client: MSW Canadian Plastics

Specimen ID: Ribcore Panels Corrugated PVC Panel

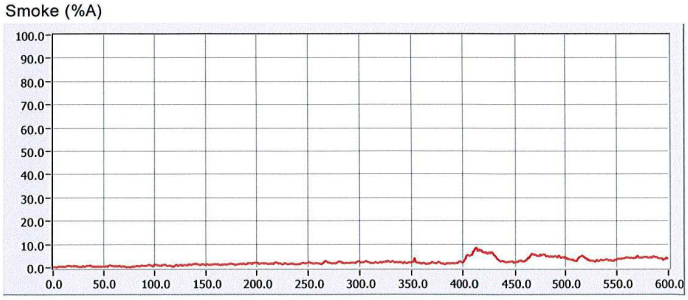
Test No.: 101259326

Standard: Canadian ULC S102.2

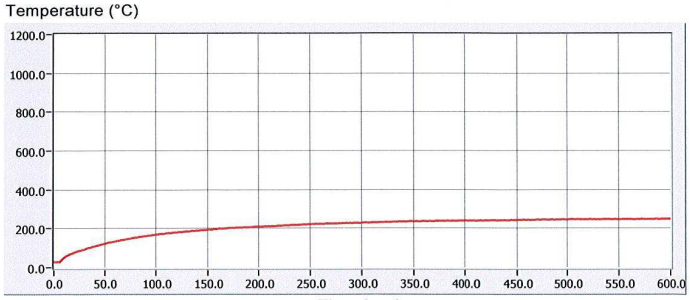
FLAME SPREAD (MM)



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: 08 29 2013
Project Number: 101259326
Test Number: 2
Operator: Greg Philp

Specimen ID: Ribcore Panels Corrugated PVC Panels

TEST RESULTS

FLAMESPREAD INDEX: 5

SMOKE DEVELOPED INDEX: 20

SPECIMEN DATA . . .

Time to Ignition (sec): 80
Time to Max FS (sec): 302
Maximum FS (mm): 297.2
Time to 527 C (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (C): 248
Time to Max Temperature (sec): 591
Total Fuel Burned (cubic feet): 44.00

FS*Time Area (M*min): 2.2
Smoke Area (%A*min): 30.5
Unrounded FSI: 4.2
Unrounded SDI: 18.1

CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 44.0
Red Oak Smoke Area (%A*min): 168.3

Tested By: _____

Reviewed By: _____

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

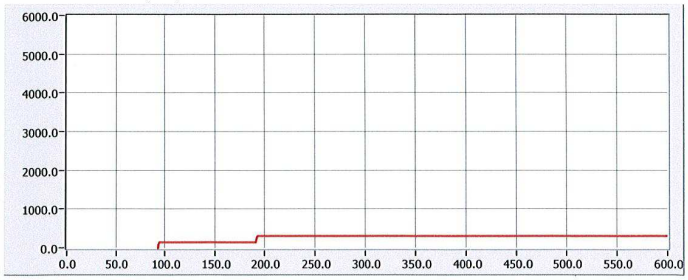
Client: MSW Canadian Plastics

Specimen ID: Ribcore Panels Corrugated PVC Panels

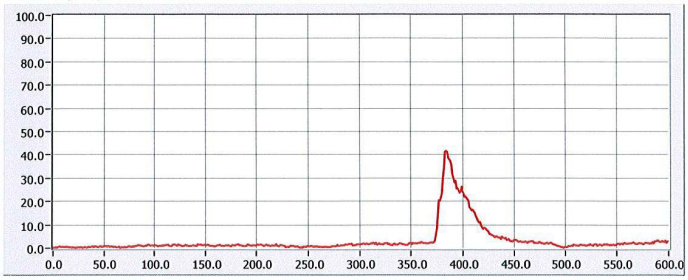
Test No.: 101259326

Standard: Canadian ULC S102.2

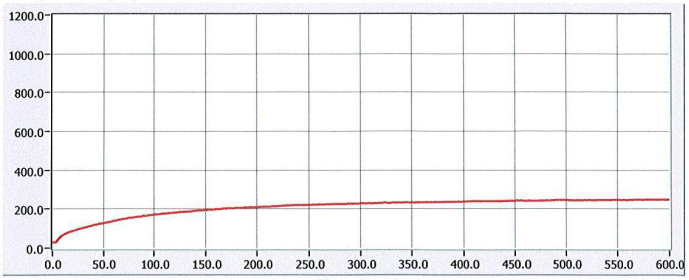
FLAME SPREAD (MM)



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: 08 29 2013
Project Number: 101259326
Test Number: 3
Operator: Greg Philp

Specimen ID: Ribcore Panels Corrugated PVC Panel

TEST RESULTS

FLAMESPREAD INDEX: 5

SMOKE DEVELOPED INDEX: 25

SPECIMEN DATA . . .

Time to Ignition (sec): 80
Time to Max FS (sec): 467
Maximum FS (mm): 503.4
Time to 527 C (sec): Never Reached
Time to End of Tunnel (sec): Never Reached
Max Temperature (C): 259
Time to Max Temperature (sec): 592
Total Fuel Burned (cubic feet): 44.00

FS*Time Area (M*min): 3.1
Smoke Area (%A*min): 45.6
Unrounded FSI: 5.7
Unrounded SDI: 27.1

CALIBRATION DATA . . .

Time to Ignition of Last Red Oak (Sec): 44.0
Red Oak Smoke Area (%A*min): 168.3

Tested By: _____ Reviewed By: _____

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

Page 2 of 2

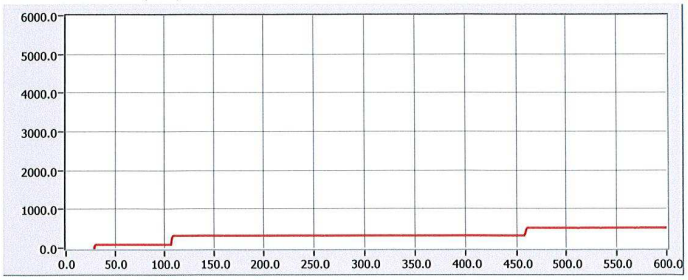
Client: MSW Canadian Plastics

Specimen ID: Ribcore Panels Corrugated PVC Panel

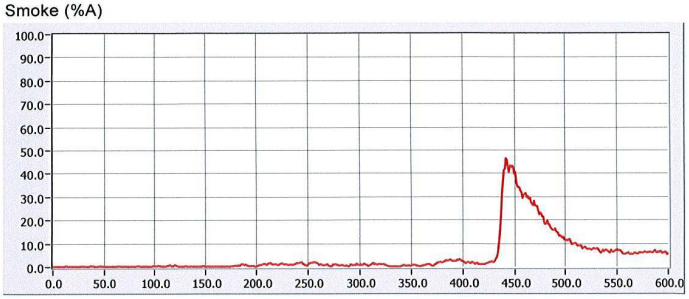
Test No.: 101259326

Standard: Canadian ULC S102.2

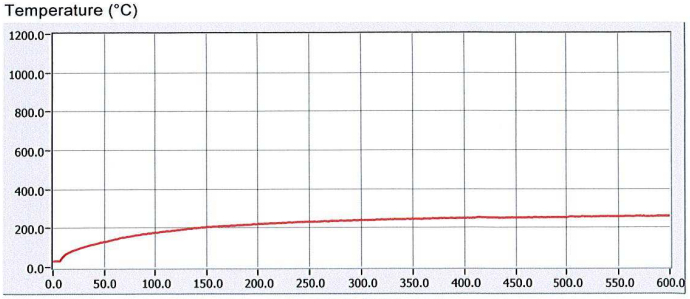
FLAME SPREAD (MM)



Smoke (%A)



Temperature (°C)



Time (sec)

600

Tested By: _____

Reviewed By: _____

REVISION SUMMARY

DATE	PAGE(S)	SUMMARY
August 30, 2013	All	Original Issue Date
September 4, 2013	Cover	Address correction