

# TEST REPORT

**Intertek**

**REPORT NUMBER:** 101706159COQ-002

**ORIGINAL ISSUE DATE:** June 20, 2014

## **EVALUATION CENTER**

INTERTEK TESTING SERVICES NA LTD.  
1500 BRIGANTINE DRIVE  
COQUITLAM, BC V3K 7C1

## **RENDERED TO**

DURA COAT PRODUCTS INC.  
5361 VIA RICARDO  
RIVERSIDE, CA 92509  
USA

**PRODUCT EVALUATED:** Exterior Polyester Coating  
**EVALUATION PROPERTY:** Impact Resistance

**Report of Exterior Polyester Coating for compliance with UL  
2218, Impact Resistance of Prepared Roof Covering Materials  
dated May 1, 2012**

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## 2 Introduction

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Intertek Testing Services NA Ltd. (Intertek) has conducted an impact resistance test for Dura Coat Products Inc. on a coated metal sheet product. The testing was carried out in accordance with UL 2218, *Impact Resistance of Prepared Roof Covering Materials* dated May 1, 2012. This evaluation was completed during the month of June 2014.

## 3 Test Samples

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### 3.1. SAMPLE SELECTION

The client submitted the coated metal sheet product to the Evaluation Center on June 17, 2014 (Coquitlam ID# VAN1406201337-001). Samples were not independently selected for testing.

### 3.2. SAMPLE AND ASSEMBLY DESCRIPTION

The product was identified as the Exterior Polyester Coating, and was submitted on a metal sheet measuring 0.0150 in. x 41 in. x 45-½ in. The product was brown in color.

## 4 Testing and Evaluation Methods

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### 4.1. CONDITIONING

Before testing, the test components were held in room conditions for at least 24 hours at a temperature of  $23 \pm 2^{\circ}\text{C}$  and relative humidity of  $50 \pm 5\%$ .

### 4.2. IMPACT RESISTANCE

One test deck, measuring 3 ft. x 3 ft., was constructed using 1/2 in. thick A-C grade, Group 1, plywood sheathing, exterior placed "A" side up, and installed over nominal 2 in. x 4 in. SPF grade 2 lumber, with an additional nominal 2 in. x 4 in. vertical support batten mid-span. The lumber framing was secured using 3-1/2 in. long deck screws. The sheathing was fastened using #8 x 1-1/2 in. coarse shank screws at 6 in. o/c around the board perimeter and 12 in. o/c in-field. The sheathing was covered with one layer of 2 SQ. NO. 30 Asphalt Felt which complies with ASTM D226 and fastened using staples spaced 12 in. o/c. The Exterior Polyester Coating sample was placed on the test deck loosely; no fasteners were used to install the panel to the test deck. The test configuration and panel layout can be found in Appendix A.

The test panel was subjected to a series of two coincident drops using a 2 in. diameter steel ball weighing 535 grams. Six impact locations were chosen. The 2 in. steel ball was dropped from a height of 20 ft. above the test deck. A magnetic release device was utilized in conjunction with a laser sight to ensure that the steel ball was dropped within ½ in. from the first impact depression. After the first drop at each location, the resultant depression was also measured using a depth gauge.

After the assembly was subjected to all drops at the selected impact locations, the product was carefully removed from the test assembly and examined on both top and bottom surfaces of the impacted areas. The panel was inspected for any sign of tearing, fracturing, cracking, splitting, rupturing, crazing, or any other evidence of opening.

## 5 Testing and Evaluation Results

### 5.1. RESULTS AND OBSERVATIONS

The product test results are shown in Table 1 below. A full set of test data is included in Appendix A.


Table 1. Test Results				
Location #	Impact Detail	Drop	Test Result	Pass/Fail
1	Over unsupported sheathing	1	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
		2	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
2	Over unsupported sheathing	1	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
		2	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
3	Over unsupported sheathing	1	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
		2	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
4	Over joist	1	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
		2	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
5	Over joist	1	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
		2	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
6	Over joist	1	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
		2	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass

## 6 Conclusion

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The Dura Coat Products Inc. Exterior Polyester Coating product identified and evaluated in this report has met the maximum impact resistance requirements of UL 2218, *Impact Resistance of Prepared Roof Covering Materials* using a 2 in. steel ball at a drop height of 20 ft. The product test results are presented in Section 5 of this report.

### INTERTEK TESTING SERVICES NA LTD.

Reported by:   
Chris Chang, P.Eng.  
Engineer, Building Products

Reviewed by:   
Riccardo DeSantis  
Manager, Building Products

## **APPENDIX A: Test Data (2 pages)**

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Company	Dura Coat Products Inc.	Technician(s)	Kevin Penner <i>KP</i>
Project No.	G101706159	Reviewer	Riccardo DeSantis <i>RD</i>
Models	Exterior Polyester Coating	Start/End Date	June 18, 2014
Product Name	Same as above	Sample ID	VAN1406201337-001
Standard	UL 2218, Impact Resistance of Prepared Roof Covering Materials, May 1, 2012		

Test Data Package

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Impact Resistance	2

**Test:** Impact Resistance Testing  
**Date:** 18-Jun-14  
**Client:** Dura Coat Products Inc.  
**Product:** Exterior Polyester Coating  
**Test Method(s):** UL 2218, *Impact Resistance of Prepared Roof Covering Materials*, May 1, 2012

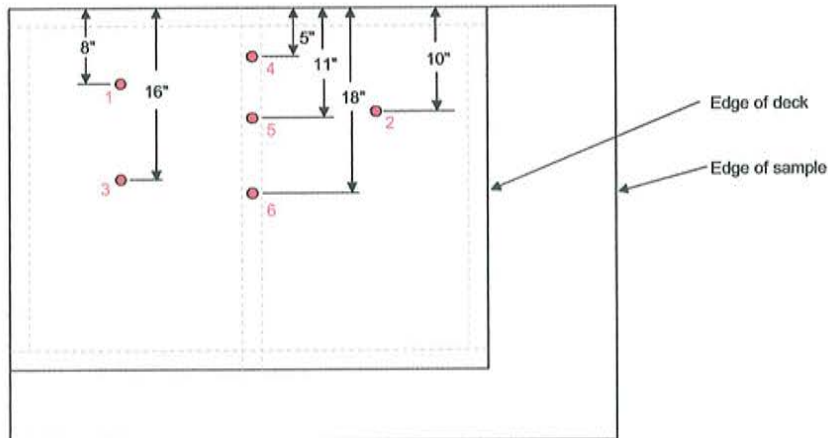
**Project No:** G101706159  
**Eng/Tech:** Kevin Penner *PP*  
**Reviewer:** Riccardo DeSantis *RD*

**Test Specimen:**  
*Overall Dimensions:* 3 ft. x 3 ft.  
*Roof Fasteners:* None  
*Sheathing:* 1/2 in. thick plywood A-C Grade, Group 1, exterior placed "A" side up  
*Sheathing Fasteners:* #8 x 1-1/2 in. deck screws  
*Deck Construction:* Nominal 2 in. x 4 in. SPF lumber with vertical support mid-span  
*Deck Fasteners:* 3-1/2 in. deck screws

**Conditioning:** As Received  
**Equipment:** Mitutoyo Digital Caliper (Intertek ID# P60005, cal due May 2015)  
 Vaisala Temperature and Humidity Indicator (Intertek ID# 9-0176, cal due July 2014)  
**Drop Height:** 20 ft. with 2 in. diameter steel ball

**Time/Temp/RH:** 10:30AM / 21.9°C / 49.3%

Location	Drop	Deflection (in)	Observations	Pass/Fail
1	1	0.0380	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
	2	N/A	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
2	1	0.0380	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
	2	N/A	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
3	1	0.0345	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
	2	N/A	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
4	1	0.0895	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
	2	N/A	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
5	1	0.0760	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
	2	N/A	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
6	1	0.0745	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass
	2	N/A	No sign of tearing, fracturing, cracking, splitting, or any sign of opening	Pass



**Impact Locations**  
(Not To Scale)