

# RESAWN TIMBER CO. TEST REPORT

**SCOPE OF WORK**

ASTM D5824 DELAMINATION RESISTANCE EVALUATION OF MODIFIED RADIATA PINE

**REPORT NUMBER**

K0377.01-106-31 R0

**TEST DATES**

10/03/19 - 10/18/19

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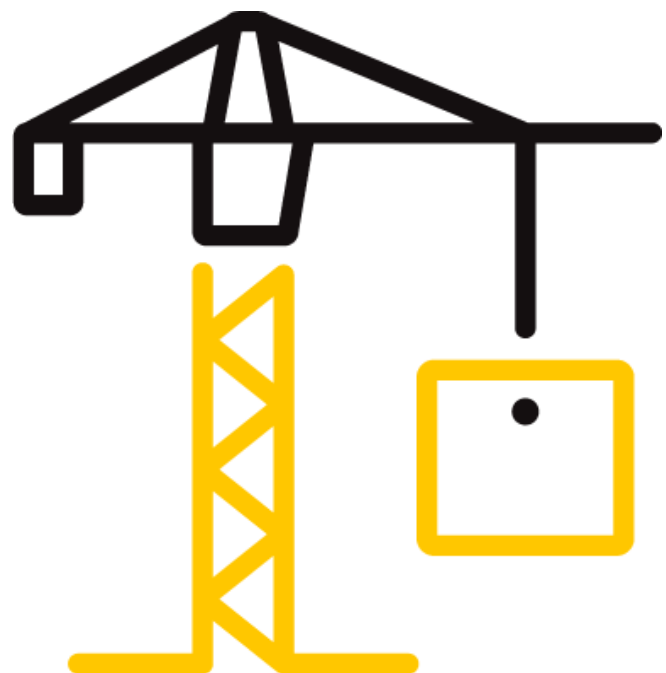
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## TEST REPORT FOR RESAWN TIMBER CO.

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Date: 12/09/19

### REPORT ISSUED TO

#### RESAWN TIMBER CO.

95 East Old State Road

Sellersville, Pennsylvania 18960

### SECTION 1

#### SCOPE

**Product:** Edge-Glued, Thermally-Modified Radiata Pine

Intertek Building & Construction (B&C) was contracted by reSAWN TIMBER co. to evaluate an edge-glued, thermally-modified Radiata Pine in accordance with ASTM D5824 for delamination resistance. Results obtained are tested values and were secured by using the designated test methods. Testing was conducted at the Intertek B&C test facility in York, Pennsylvania.

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

For INTERTEK B&C:

<b>COMPLETED BY:</b>	Joshua A. Kennedy
<b>TITLE:</b>	Technician I Materials Laboratory
<b>SIGNATURE:</b>	
<b>DATE:</b>	12/09/19

<b>REVIEWED BY:</b>	Joseph M. Brickner
<b>TITLE:</b>	Laboratory Supervisor Materials Laboratory
<b>SIGNATURE:</b>	
<b>DATE:</b>	12/09/19

JAK:jmb/als

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**SECTION 2**

**SUMMARY OF TEST RESULTS**

PROCEDURE	PROPERTY	DELAMINATION (in)		
		END	EDGE	TOTAL
ASTM D5824	Delamination	0.0	0.0	0.0
	Observations	Chemical bleed-out and cracking on cut edges		

**SECTION 3**

**TEST METHODS**

The specimens were evaluated in accordance with the following:

**ASTM D5824-98 (Reapproved 2017)**, *Standard Test Method for Determining Resistance to Delamination of Adhesive Bonds in Overlay-Wood Core Laminates Exposed to Heat and Water*

**ASTM D4442-16**, *Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials*, Method A, Section 5.4 only

**SECTION 4**

**MATERIAL SOURCE**

The Radiata Pine material was provided by reSAWN TIMBER co. The following were received on 8/7/19: Ten (10), nominally 5-inch long by 3-inch wide by 0.75-inch thick pieces of edge-glued, thermally-modified Radiata Pine marked with Aboda VG Vulcan treated and EXT Fire treated by CHEMCO 8/2/19. Refer to the product description photos in Section 10. The material was tested as received. Representative materials/test specimens will be retained by Intertek B&C for a minimum of four years from the test completion date.

**SECTION 5**

**LIST OF OFFICIAL OBSERVERS**

NAME	COMPANY
Joshua A. Kennedy	Intertek B&C
Joseph M. Brickner	Intertek B&C
Jonathan M. Bright	Intertek B&C

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### SECTION 6

#### TEST PROCEDURES

All conditioning of test specimens and test conditions were at standard laboratory conditions unless otherwise reported. Refer to the test related photos in Section 10.

#### ASTM D5824 - Delamination Resistance

The delamination resistance of the Radiata Pine was determined utilizing a vacuum tube filled with deionized water with the specimens submerged at least two inches deep. A negative (vacuum) pressure of 25 in of Hg was applied for 30 minutes and followed immediately by positive pressure of 75 psi for 30 minutes. The specimens were exposed to 77°C air for 4 hours in a Blue M oven (ICN: Y002568) then immediately measured and evaluated for delamination with a Fowler digital caliper (ICN: INT01066). Prior to testing, the specimens were conditioned at 23°C and 50% RH for seven days in an ESPEC Environmental Chamber (ICN: INT00658).

#### ASTM D4442 - Moisture Content

The moisture content of the Radiata Pine was determined utilizing a Mettler Toledo balance (ICN: 65216) to weigh each specimen before and after exposure conditions. The specimens were conditioned in an ESPEC Environmental Chamber (ICN: INT00658) for seven days at 23°C and 50% RH, weighed, dried until constant mass in a Blue M oven (ICN: Y002568) at 77°C, and weighed. Specimen were weighed to the nearest 0.001 grams.

### SECTION 7

#### TEST SPECIMEN DESCRIPTIONS

TEST PROCEDURE	NUMBER OF SPECIMENS	NOMINAL SPECIMEN DIMENSIONS	VISUAL CHARACTERISTICS
ASTM D5824	10	5" x 3" x 0.75"	Brown Pine
ASTM D4442	10	5" x 3" x 0.75"	Brown Pine

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**SECTION 8**

**TEST RESULTS**

**ASTM D5824 - Delamination Resistance**

SPECIMEN	BOND LENGTH (in)			DELAMINATION (in)			DELAMINATION (%)			Observations
	EDGE	END	TOTAL	EDGE	END	TOTAL	EDGE	END	TOTAL	
1	3.032	5.050	8.082	0.000	0.000	0.000	0.000	0.000	0.000	All specimens exhibited slight chemical bleed-out and slight cracking on cut edges
2	3.018	5.054	8.072	0.000	0.000	0.000	0.000	0.000	0.000	
3	3.013	5.064	8.077	0.000	0.000	0.000	0.000	0.000	0.000	
4	3.011	5.043	8.054	0.000	0.000	0.000	0.000	0.000	0.000	
5	3.053	5.040	8.093	0.000	0.000	0.000	0.000	0.000	0.000	
6	3.040	5.042	8.082	0.000	0.000	0.000	0.000	0.000	0.000	
7	3.003	5.043	8.046	0.000	0.000	0.000	0.000	0.000	0.000	
8	3.016	5.048	8.064	0.000	0.000	0.000	0.000	0.000	0.000	
9	3.022	5.042	8.064	0.000	0.000	0.000	0.000	0.000	0.000	
10	3.020	5.043	8.063	0.000	0.000	0.000	0.000	0.000	0.000	
<b>Average</b>	<b>3.023</b>	<b>5.047</b>	<b>8.070</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	

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**ASTM D5824 - Weight Change**

SPECIMEN	INITIAL WEIGHT (g)	FINAL WEIGHT (g)	WEIGHT GAIN (g)	WEIGHT GAIN (%)
1	112.256	155.564	43.308	38.580
2	113.490	158.020	44.530	39.237
3	110.611	155.789	45.178	40.844
4	109.939	136.740	26.801	24.378
5	111.895	137.975	26.080	23.308
6	110.282	132.891	22.609	20.501
7	110.831	154.382	43.551	39.295
8	111.096	155.768	44.672	40.210
9	111.878	155.768	43.890	39.230
10	110.504	152.382	41.878	37.897
<b>Average</b>	<b>111.278</b>	<b>149.528</b>	<b>38.250</b>	<b>34.348</b>

**ASTM D4442 - Moisture Content**

SPECIMEN	INITIAL WEIGHT (g)	OVEN-DRY WEIGHT (g)	MOISTURE CONTENT (%)
1	112.256	104.813	7.1
2	113.490	106.092	7.0
3	110.611	103.206	7.2
4	109.939	102.532	7.2
5	111.895	104.291	7.3
6	110.282	102.903	7.2
7	110.831	103.441	7.1
8	111.096	103.718	7.1
9	111.878	104.325	7.2
10	110.504	103.066	7.2
<b>Average</b>	<b>111.278</b>	<b>103.839</b>	<b>7.2</b>

**SECTION 9**

**CONCLUSION**

The methods performed did not contain specified performance requirements.

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### SECTION 10 PHOTOGRAPHS



**Photo No. 1**  
**Material As-Received**



**Photo No. 2**  
**Typical Specimen Detail (Marked Side)**

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**Photo No. 3**  
**Specimen Detail (Unmarked Side)**



**Photo No. 4**  
**Specimen Edge Detail**



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**Photo No. 5**  
**Testing In-Progress Detail**



**Photo No. 6**  
**Post-Test Specimen Detail**

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**Photo No. 7**  
**Post-Test Specimen Edge Detail**



**Photo No. 8**  
**Typical Post-Test Edge Cracking Detail**



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**SECTION 11**

**REVISION LOG**

REVISION #	DATE	PAGES	REVISION
0	12/09/19	N/A	Original Report Issue