RADCO TEST REPORT
Test Report No. RAD-3294
Project No. C-7695
Lab No. TL-2029

Mechanical Property Tests on Oriented Strand Board Facings

Prepared for

K-2 Construction, Inc. (dba R-Tight Panel)
P.O. Box 700,
Jeffersonville, VT 05464

by

R A D C O, INC.
Resources, Applications, Designs and Controls, Inc.
Listing and Testing Division
3220 E. 59th Street
Long Beach, CA 90805
Telephone: 562-272-7231
Facsimile: 562-529-7513
www.radcoinc.com

Prepared by:

7/1/03

Yamil Moya
Senior Consultant

Submitted by:

7/01/03

Michael L. Zieman, P.E.
President

Issued: July 1, 2003

TABLE OF CONTENTS

APPENDIX

Photographs

1.0 INTRODUCTION

At the request of K-2 Construction Inc. (dba R-Tight Panel), tensile and flexural strength tests were conducted on the Oriented Strand Board (OSB) facings of their sandwich panels. The panels were fabricated at the K-2 Construction, Inc. manufacturing facility in Jeffersonville, VT and witnessed by RADCO personnel on March 27, 2001. The panels were received at RADCO's testing facility in Long Beach, California on April 16, 2001.

The purpose of these tests is to establish the allowable stresses of the OSB, in order to conduct panel analysis for transverse load values.

2.0 MATERIAL DESCRIPTION

The OSB is Exposure I APA rated 24/16 manufactured by Huber Engineered Wood Division. The specimens tested were sampled from sandwich panels that had undergone transverse load tests in accordance with AC04.

Tensile Strength Test Parallel to Surface Specimens

Five (5) each- dogbone shape OSB specimens were cut from the transverse load tested panels along and across the OSB. The specimen dimensions were in accordance with ASTM D1037. The specimens were conditioned for 40 hours at 73°F ± 4°F temperature and 50% ± 3% relative humidity prior to testing.

Flexural Strength Tests Specimens

Five (5) each - 12" x 3" x $^{7}/_{16}$" thick were cut from the transverse load tested panels along and across the OSB. The specimens were conditioned at 73°F ± 4°F temperature and 50% ± 3% relative humidity for 40 hours.

3.0 TEST PROGRAM

The specimens were tested to the following:

Test	Referenced Standard
Tensile Strength Parallel To Surface	ASTM D1037-94, "Standard Test Method for Evaluating Properties of Wood Base Fiber and Particle Materials"
Flexural Strength (static bending)	ASTM D1037-94, "Standard Test Method for Evaluating Properties of Wood Base Fiber and Particle Materials"

4.0 TENSILE STRENGTH TESTS PARALLEL TO SURFACE

Test Procedure

The specimens were mounted in the RADCO United Table Model Electro mechanical Testing Machine, Model Number TM-20. Specimens were loaded in tension at a rate of 0.15-inch per minute. The rate was selected such that failure occurred between 3 and 6 minutes. Load vs. specimen extension was recorded by using an extensometer.

The testing was conducted at RADCO's testing laboratory in June 2003.

Test Results

Table No. 1- Tensile Strength

Specimen No.	Cross-Sectional Area (in^2)	Tensile Load (lbs)	Tensile Strength (psi)	Modulus of Elasticity (psi)
1MD	0.58	996.93	1716.48	610,817
2 MD	0.59	1546.40	2622.80	762,451
3 MD	0.62	1695.02	2748.80	855,774
4 MD	0.63	1095.28	1750.77	710,188
5 MD	0.67	1407.09	2111.48	795,192
average (MD)	0.60	1412.78	2362.69	743,014
1CD	0.62	843.66	1358.55	360,383
2 CD	0.63	746.69	1184.85	550,268
3 CD	0.63	1067.35	1681.40	723,936
4 CD	0.61	798.72	1305.10	350,940
5 CD	0.59	980.68	1676.38	368,780
average (CD)	0.63	885.90	1408.26	544,862

MD- machine direction (length of specimens parallel to length of board)
CD- cross direction (length of specimens perpendicular to length of board)

5.0 FLEXURAL STRENGTH AND MODULUS OF ELASTICITY

The specimens were tested in accordance with ASTM D1037. A Universal Testing Machine was utilized to apply a compressive load at a rate of 0.24 in/min. A photograph of the test setup is appended. The specimen deflection was determined by the cross-head movement of the testing machine.

Testing was conducted at RADCO's testing laboratory in June 2003.

Test Results

Flexural Strength= $3PL / 2bd^2$

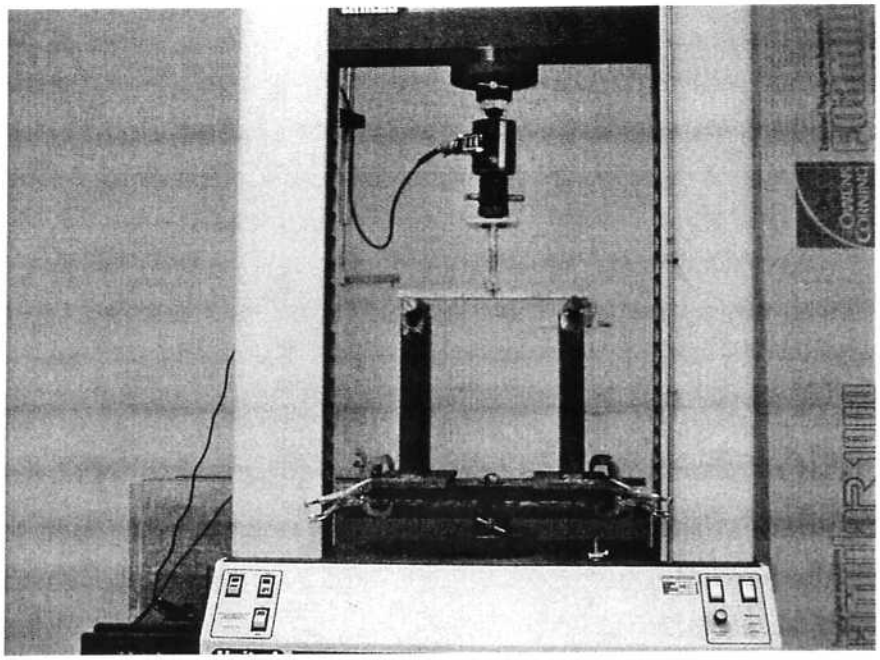
Specimen No.	Span, L (in)	Width, b (in)	Thickness, d (in)	Ultimate Load, P (lbf)	Flexural Strength (psi)	Apparent Modulus of Elasticity (psi)
MD1	10.50	2.97	0.46	174.57	4,375	771,584
MD2	10.50	2.99	0.44	159.29	4,334	700,770
MD3	10.50	2.95	0.44	161.79	4,462	677,748
MD4	10.50	2.92	0.46	178.94	4,561	715,089
MD5	10.50	2.98	0.45	160.90	4,199	664,537
average	10.50	2.96	0.45	167.10	4,386	705,946

Specimen No.	Span, L (in)	Width, b (in)	Thickness, d (in)	Ultimate Load, P (lbf)	Flexural Strength (psi)	Apparent Modulus of Elasticity (psi)
CD1	10.50	3.01	0.49	134.42	2,929	273,468
CD2	10.50	3.01	0.46	151.33	3,742	351,956
CD3	10.50	3.01	0.47	102.27	2,423	292,508
CD4	10.50	3.01	0.47	80.06	1,896	273,005
CD5	10.50	3.00	0.47	110.50	2,626	282,348
average	10.50	3.01	0.47	115.72	2,723	294,657

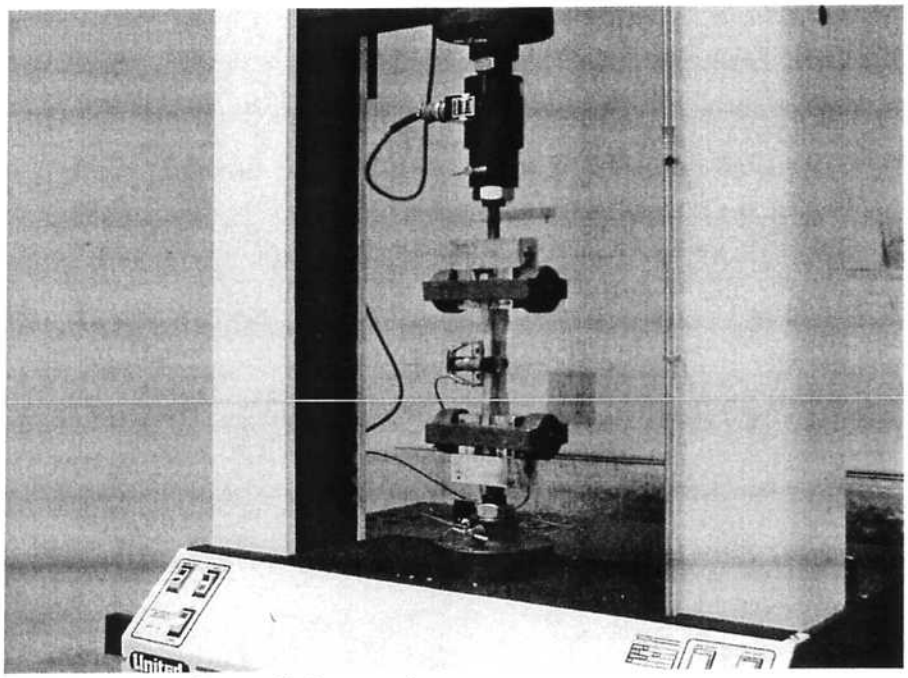
END OF REPORT

APPENDIX

Photographs



Flexural strength test setup.



Tensile strength parallel to surface test setup.