

BINGAMAN AND SON LUMBER INC. TEST REPORT

SCOPE OF WORK

ASTM D1037 SECTION 9, STATIC BENDING

REPORT NUMBER

M2865.01-106-31 R0

TEST DATES

05/06/21 - 05/18/21

ISSUE DATE

07/06/21

RECORD RETENTION END DATE

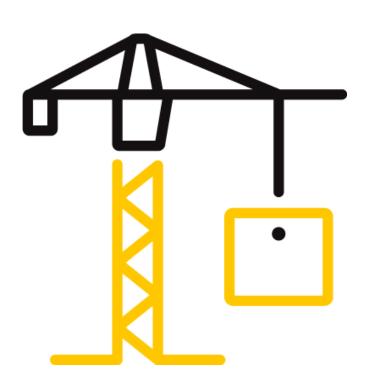
05/18/25

PAGES

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DOCUMENT CONTROL NUMBER

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TEST REPORT FOR BINGAMAN AND SON LUMBER INC.

Report No.: M2865.01-106-31 R0

Date: 07/06/21

REPORT ISSUED TO

BINGAMAN AND SON LUMBER INC.

1195 Creek Mountain Road P.O. Box 247 Kreamer, Pennsylvania 17833

SECTION 1

SCOPE

Products: Red Oak Lumber Decking

Intertek Building & Construction (B&C) was contracted by Bingaman and Son Lumber Inc. to evaluate Red Oak Lumber Decking in accordance with ASTM D1037 for Static Bending. 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:

| COMPLETED BY: | Isaiah S. Gingrich | REVIEWED BY: | Joseph M. Brickner |
|-----------------|----------------------|--------------|-----------------------|
| TITLE: | Technician I | TITLE: | Laboratory Supervisor |
| | Materials Laboratory | | Materials Laboratory |
| SIGNATURE: | | SIGNATURE: | |
| | | | |
| | | | |
| DATE: | 07/06/21 | DATE: | 07/06/21 |
| ISG:jmb/als/aas | | | |

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SECTION 2

TEST METHOD

The specimens were evaluated in accordance with the following:

ASTM D1037-12(2020), Standard Test Method for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials

SECTION 3

MATERIAL SOURCE

The materials were provided by Bingaman and Son Lumber Inc. The following were received in good condition on 5/19/2021: Ten (10), Red Oak Lumber Decking Boards along with various mounting components. Refer to the product description photos in Section 9. The material was tested as received with some assembly prep to properly mount the specimens for testing. Representative materials/test specimens will be retained by Intertek B&C for a minimum of four years from the test completion date.

SECTION 4

LIST OF OFFICIAL OBSERVERS

| NAME | COMPANY |
|--------------------|--------------|
| Isaiah S. Gingrich | Intertek B&C |
| Joseph M. Brickner | Intertek B&C |

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SECTION 5

TEST PROCEDURE

All conditioning of test specimens and test conditions were at standard laboratory conditions unless otherwise reported. Refer to the test related photos in Section 9. Calibration certificates available upon request.

ASTM D1037 - Static Bending (Section 9)

Static bend testing was conducted on an SATEC UTM (ICN: Y002011) equipped with a 5,000 pound load cell (ICN: 65607) operating at a speed of 0.12 in/min. Test specimens were fixtured upon 1.0-in. diameter steel supports spaced 16-in. on center. Each specimen was loaded with the finished side in a face up orientation and subjected to a center point load utilizing a 1.0-in. diameter loading nose until failure occurred. Specimen dimensions were recorded using a digital caliper (ICN: INT01153).

SECTION 6

TEST SPECIMEN DESCRIPTION

| TEST PROCEDURE | NUMBER OF SPECIMENS | NOMINAL SPECIMEN DIMENSIONS |
|----------------|---------------------|-----------------------------|
| ASTM D1037 | 11 | 48 in. long by 8 in. wide |

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SECTION 7

TEST RESULTS

ASTM D1037 - Static Bending

| SPECIMEN | WIDTH | | | DISPLACEMENT | FAILURE |
|-----------------------------|-------|-------|-------------|-----------------|-----------------------------|
| ID | (in) | (in) | FORCE (lbf) | AT 300 LBF (in) | MODE |
| 5/4 X 6 G&G w/ EM | 5.504 | 1.003 | 1,340 | 0.079 | Break |
| 5/4 x 6 E4E w/ EM | 5.508 | 1.000 | 2,510 | 0.068 | Break |
| 5/4 x 6 E4E NO EM | 5.508 | 1.012 | 4,700 | 0.042 | Break |
| 1 x 6 E4E w/ EM | 5.503 | 0.757 | 1,500 | 0.114 | Break |
| 1 x 6 E4E NO EM | 5.505 | 0.756 | 3,240 | 0.032 | Break |
| 5/4 x 6 G&G NO EM | 5.499 | 1.000 | 1,920 | 0.038 | Break at Point Load |
| 5/4 x 6 G&G NO EM RETEST | 5.507 | 0.999 | 1,050 | 0.063 | Break |
| 1 x 6 G&G NO EM #1 | 5.533 | 0.755 | 2,840 | 0.062 | Break at Edge and Center |
| 1 x 6 G&G w/ EM #1 | 5.53 | 0.748 | 1,150 | 0.044 | Break at Rear Member |
| 1 x 6 G&G NO EM #2 | 5.516 | 0.763 | 3,160 | 0.164 | Break at Center |
| 1 x 6 G&G w/ EM #2 | 5.516 | 0.750 | 1,090 | 0.067 | Break at Rear Member |

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| SPECIMEN ID | MODULUS OF RUPTURE (psi) | FLEXURE STRESS AT YIELD (OFFSET 0.02%) (psi) | MODULUS OF ELASTICITY (psi) | PROPORTIONAL LIMIT (psi) |
|-----------------------------|-----------------------------|--|--------------------------------|-----------------------------|
| 5/4 X 6 G&G w/ EM | 5,790 | 5,750 | 686,000 | 5,750 |
| 5/4 x 6 E4E w/ EM | 10,900 | 8,490 | 864,000 | 8,490 |
| 5/4 x 6 E4E NO EM | 20,000 | 16,100 | 2,090,000 | 16,100 |
| 1 x 6 E4E w/ EM | 11,400 | 6,220 | 1,130,000 | 6,220 |
| 1 x 6 E4E NO EM | 24,700 | 20,400 | 3,760,000 | 20,400 |
| 5/4 x 6 G&G NO EM | 8,360 | 8,010 | 1,930,000 | 8,010 |
| 5/4 x 6 G&G NO EM RETEST | 4,590 | 3,990 | 1,480,000 | 3,990 |
| 1 x 6 G&G NO EM #1 | 21,600 | 17,000 | 2,710,000 | 17,000 |
| 1 x 6 G&G w/ EM #1 | 8,950 | 7,130 | 996,000 | 7,130 |
| 1 x 6 G&G NO EM #2 | 23,600 | 22,800 | 2,740,000 | 8,380 |
| 1 x 6 G&G w/ EM #2 | 8,420 | 8,380 | 1,010,000 | 22,800 |

SECTION 8

CONCLUSION

The requested test method does not contain specific performance requirements. Results are reported as obtained.

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SECTION 9

PHOTOGRAPHS



Photo No. 1
As Received Materials



Photo No. 2
Equipment Detail, Pre-Testing



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Photo No. 3
Specimen, Post-Testing



Photo No. 4
Specimen Failure Mode, Post-Testing



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SECTION 10

REVISION LOG

| REVISION # | DATE | PAGES | REVISION |
|------------|----------|-------|-----------------------|
| 0 | 07/06/21 | N/A | Original Report Issue |
| | | - | <u> </u> |