

**TESTING
LABORATORIES, INC.**

**TESTING
LISTING
EVALUATION**

257 EAST RANDOLPH STREET • NAPPANEE, INDIANA 46550
WWW.NTAINC.COM • TESTLAB@NTAINC.COM

PHONE: 574-773-5460
FAX: 574-773-2260

**ASTM D1621, TESTING COMPRESSIVE PROPERTIES OF:
5/4 X 6 DECK BOARD (SOLD UNDER ANY OF THE FOLLOWING TRADE NAMES:
CHOICEDEK®, MOISTURESHIELD®, OR LIFECYCLE®)**

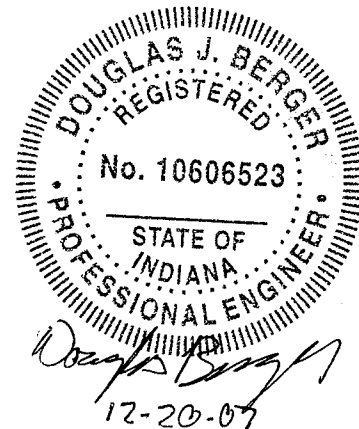
Prepared for:
**Advanced Environmental Recycling Technologies, Inc.
914 North Jefferson Street
Springdale, Arkansas 72764**

Phone: (479) 756-7400
Fax: (479) 756-7410
Web: www.aertinc.com

Test Report: AER111907-14
Issued: December 18, 2007

Prepared By:
Dale Arter
Director of Testing

Reviewed By:
Douglas Berger, P.E.
Test Engineer



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Prepared By: Brad Wear
Reviewed & Approved By Dale Arter

Form QA 4.3
Issued/Revised: 12/18/07

1. INTRODUCTION

Advanced Environmental Recycling Technologies, Inc. (AERT) retained NTA Testing Laboratories, Inc. (NTA) to assess the compressive properties of 5/4 x 6 scalloped deck boards in accordance with ASTM D1621. All tests were conducted at the NTA Testing Facility located in Nappanee, Indiana.

Table 1: Test Parameters

Parameter	Value
Specimen size (l x w)	2-in. x Product Width (5.4-in.)
Loading Area	Specimen Area Fully Loaded

2. TEST PROGRAM

2.1. DESCRIPTION OF TEST SPECIMENS

Five similar test specimens were cut from the sample material provided by the client. A specimen description is provided in table 2, below, and a typical profile of this material is provided in Figure 1 of the Appendix.

Representative material was sampled by PFS personnel on November 27, 2007 at the client's manufacturing facility located in Springdale, Arkansas.

Table 2: Specimen Description

Decking	Size	5/4 x 6 Deck Boards
	Trade Names Sold Under	ChoiceDek® / MoistureShield® / LifeCycle®
	Composition	45-50% Polyethylene 50-55% Wood Fiber 0-5% Pigment Additive

2.2. TEST PROCEDURE

The test procedure is in accordance with ASTM D1621. Accordingly, each specimen is placed onto the lower platen and the upper platen applies the compressive load through the use of the testing machine. Each platen has a contact area which is larger than the surface area of the specimen, and the upper platen contains a spherical seating mechanism in order to compensate for any non-parallelism inherent in the specimen or test setup. The specimen is centered on the platen and is loaded at a specified rate until a yield point is reached or until the specimen has been compressed by 13% of its original thickness, at which point the test is stopped. A typical test setup may be seen in Figure 2.

3. TEST RESULTS


A total of five specimens were tested using the procedure outlined herein. The compressive strength, compressive modulus, and deflection at maximum load for each specimen are presented in Table 3, below. More detailed results may be seen in the Appendix.

It must be noted that the data provided herein applies only to the samples tested and may not be extrapolated beyond these samples to a larger population. Also, the full profile of these scalloped deck board specimens was tested; ASTM D1621 does not specifically address irregular shaped specimens.

Table 3: Test Results

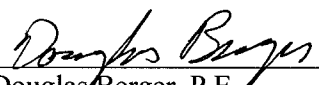
AERT Parent Specimen Number	NTA Specimen Number	Compressive Strength (psi)	Compressive Modulus (psi)	Deformation at Maximum Load (in.)
1-2	14219	1052	20567	0.1630
2-3	14220	944	23629	0.1627
3-1	14221	982	20768	0.1632
4-4	14222	876	21158	0.1625
5-1	14223	956	23509	0.1630
	Average	962	21926	0.1629

REPORT PREPARED BY:


Dale Arter
Director of Testing

12-20-07

REPORT REVIEWED BY:


Douglas Berger, P.E.
Test Engineer

12-20-07

REFERENCES

1. ASTM D1621-06, "*Standard Test Method for Compressive Properties of Rigid Cellular Plastics*". ASTM (American Society for Testing and Materials) International. West Conshohocken, PA. 5pp.

APPENDIX

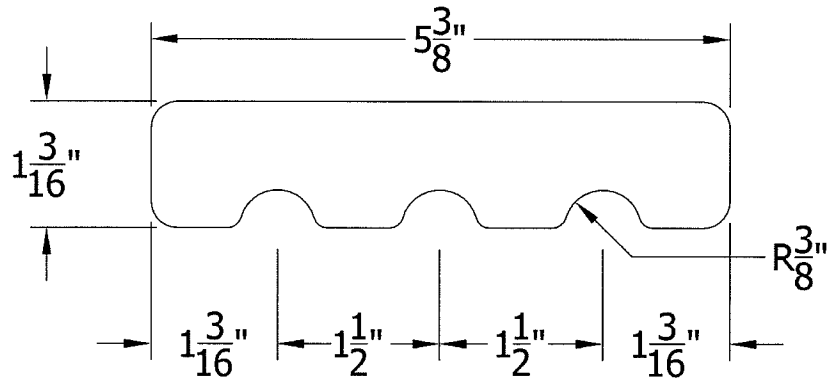


Figure 1: Specimen Construction

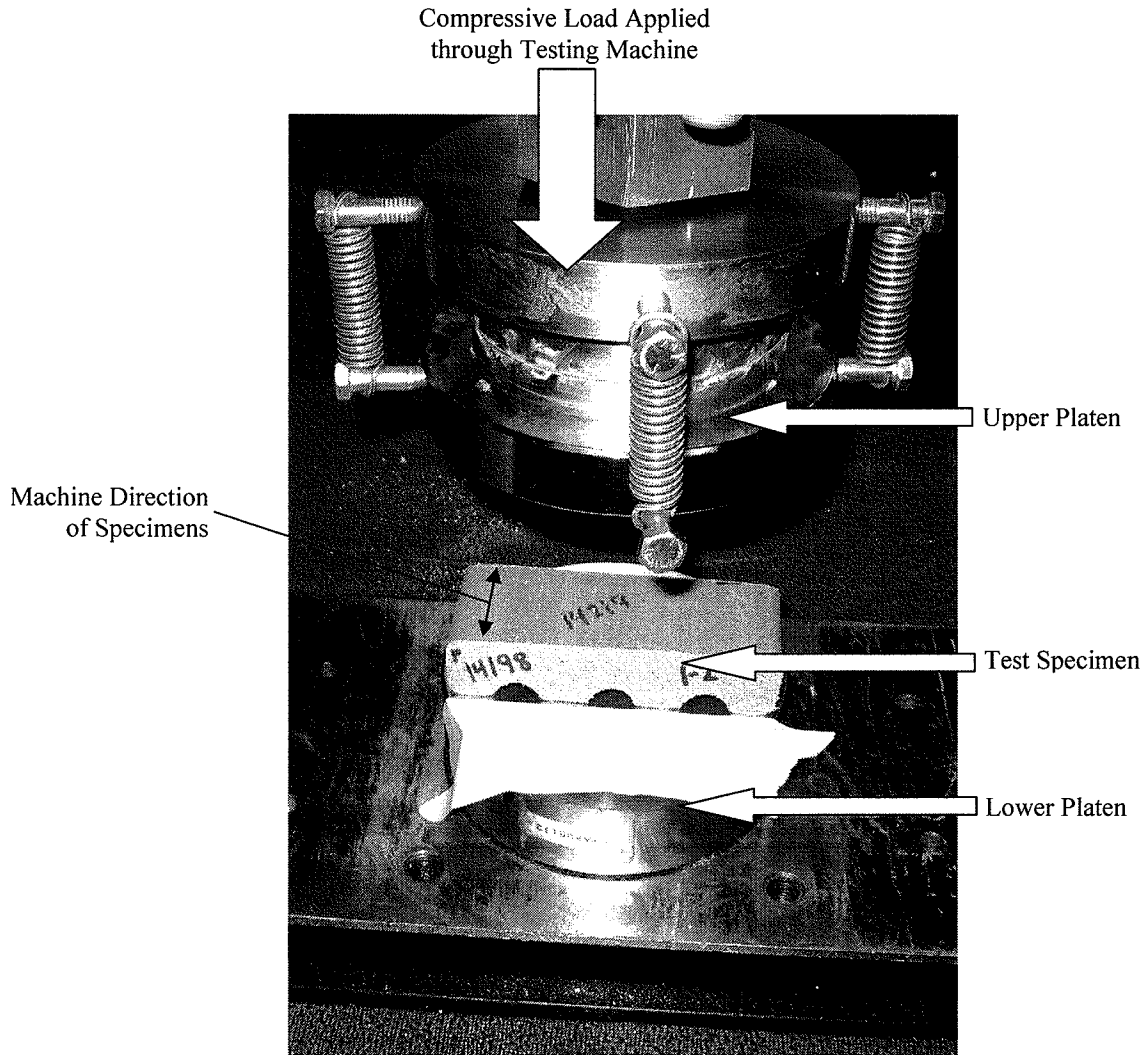


Figure 2: Test Setup

APPENDIX

AER111907-14, ASTM D1621 Comp. Prop. of Rigid Cellular Plastics 2007-5-14, #14219-14223.xls
Out

NTA Testing Laboratories, Inc.

ASTM D1621, Standard Test Method for Compressive Properties of Rigid Cellular Plastics Test Datasheet

Client: Advanced Environmental Recycling Technologies Inc.
Job Number: AER111907-14
Test Location: *NTA Testing Laboratories, Inc.*
Nappanee, Indiana

Performed By: Todd Ferguson
Witnessed By: Brad Wear

General:
Date Received: 12/3/2007
Construction Date: 12/7/2007
Test Date: 12/13/2007

Apparatus:

Measurement Device:	Asset No.
Elapsed Time:	00643
Test Frame:	00000
Upper Platen:	00140
Lower Platen:	00693
	00132

Ambient Conditions:
Ambient Temp.: 73.7 deg. F
Ambient R.H.: 48.3% RH
Sensor Asset No.: 00586

Product Description:
Manufacturer: Advanced Environmental Recycling Technologies Inc.
Trade Name/Designation: MoistureShield / ChoicDek / LifeCycle Decking
Material Description: Composite Decking, 1.25-in. thick

Test Data:

Spec. No.	Average Width (in.)	Average Length (in.)	Average Thickness (in.)	Load at 10% Deformation (lbf)	10% Deformation (in.)	Compressive Strength (psi)	Compressive Modulus (psi)	Maximum Load (lbs)	Deformation at Max Load (in.)
14219	5.405	2.039	1.186	11589	0.1421	1052	20567	15034	0.1630
14220	5.419	2.074	1.192	10605	0.1192	944	23629	17315	0.1627
14221	5.398	2.031	1.181	10766	0.1460	982	20768	16934	0.1632
14222	5.424	2.055	1.189	9765	0.1537	876	21158	17707	0.1625
14223	5.414	2.053	1.186	10623	0.1533	956	23509	17520	0.1630
Average:				10670	0.1429	962	21926	16902	0.1629
Standard Deviation:				648	0.0141	64	1515	1083	0.0003

Load vs. Deflection

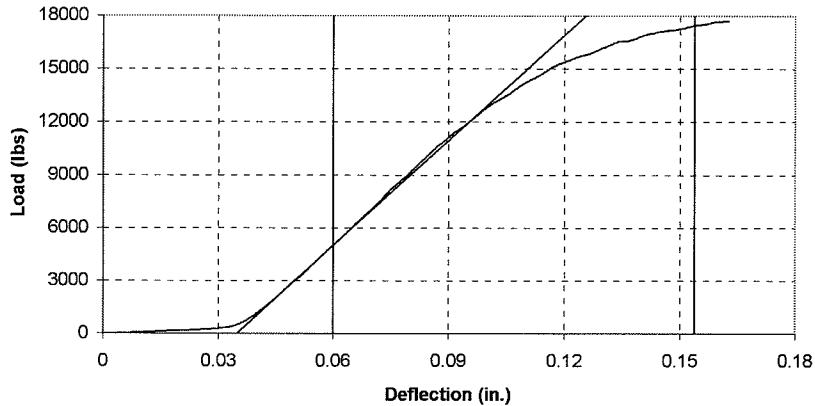


Figure A1: Load vs. Deflection Plot for Specimen #14222

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Created By: Brad Wear
Reviewed & Approved By: Dale Arter

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