



December 21, 2016
January 12, 2017 Additional Water Drainage Data Added.
March 6, 2017 Water Exposure, UV, Freeze Thaw and Mold/Fungi data added.
March 28, 2017 Compression Data Revised.
May 3, 2017 Heat Aging data added.

Mail To:

Mr. Gary Johnson
Mortar Net Solutions
326 Melton Road
Burns Harbor, IN 46304

Bill To:

<= Same

email: GJohnson@mortarnet.com

Dear Mr. Johnson:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report of the laboratory testing for the samples listed below.

TRI Job Reference Number: 25729

Materials Tested: DriPlane (6 mm)

Tests Requested: Air Leakage (ASTM E 2925, Annex A1)
Water Drainage (ASTM E 2925, Annex A2)
Water Drainage (ASTM D 2273)
Water Exposure - 168 hours @ 50 C (ASTM D 5322)
UV Resistance - 336 hrs (ASTM G 154, Cycle 1)
Freeze Thaw Exposure
Heat Aging and Exposure - 90 days @ 77C (ASTM D 3045)
Mold and Fungi Resistance - 28 days (ASTM C 1338)

If you have any questions or require any additional information, please call us at 1-800-880-8378

Sincerely,

Jarrett A. Nelson
Technical Director
Geosynthetic Services Division
www.GeosyntheticTesting.com

*Signature is on file



DRAINAGE AND VENTILATION/AIR FLOW TEST RESULTS
TRI Client: Mortar Net Solutions

Material: Drainage Material
Sample Identification: Driplane
TRI Log #: 25729

Air Flow (ASTM E 2925, Annex A1)

Table with 2 columns: Differential Vacuum (Pressure in pa) and Air Flow Rate (L/s). Values range from 1 pa (0.07 L/s) to 75 pa (3.45 L/s).

Water Drainage (ASTM E 2925, Annex A2)

Table with 3 columns: Parameter, Wt. g, and % of Total. Shows Water Drained (3211g, 93%) and Water Retained (239g, 7%).

Water Drainage (ASTM E 2273)

Table with 3 columns: Elapsed Time (min), Wt. g, and % of Total. Shows Water Flowing at various times (15-75 min) and Water Draining (60 min), totaling 9934g (86%).

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



DRAINAGE AND VENTILATION/AIR FLOW TEST RESULTS

TRI Client: Mortar Net Solutions

Material: Drainage Material

Sample Identification: Driplane (Insect/Mortar screen removed from bottom)

TRI Log #: 25729

Water Drainage (ASTM E 2925, Annex A2)

<u>Parameter</u>	<u>Wt. g</u>	<u>% of Total</u>
Water Drained	2921	96%
Water Retained	118	4%

Water Drainage (ASTM E 2273)

	<u>Elapsed Time (min)</u>	<u>Wt. g</u>	<u>% of Total</u>
	15	1805	
	30	2132	
Water Flowing	45	2159	
	60	2141	
	75	2168	
Water Draining	60	445	
	Total Water Drained	10850	94%



LABORATORY TEST RESULTS
TRI Client: Mortar Net Solutions

Material: Drainage Material
Sample Identification: Driplane
TRI Log #: 25729

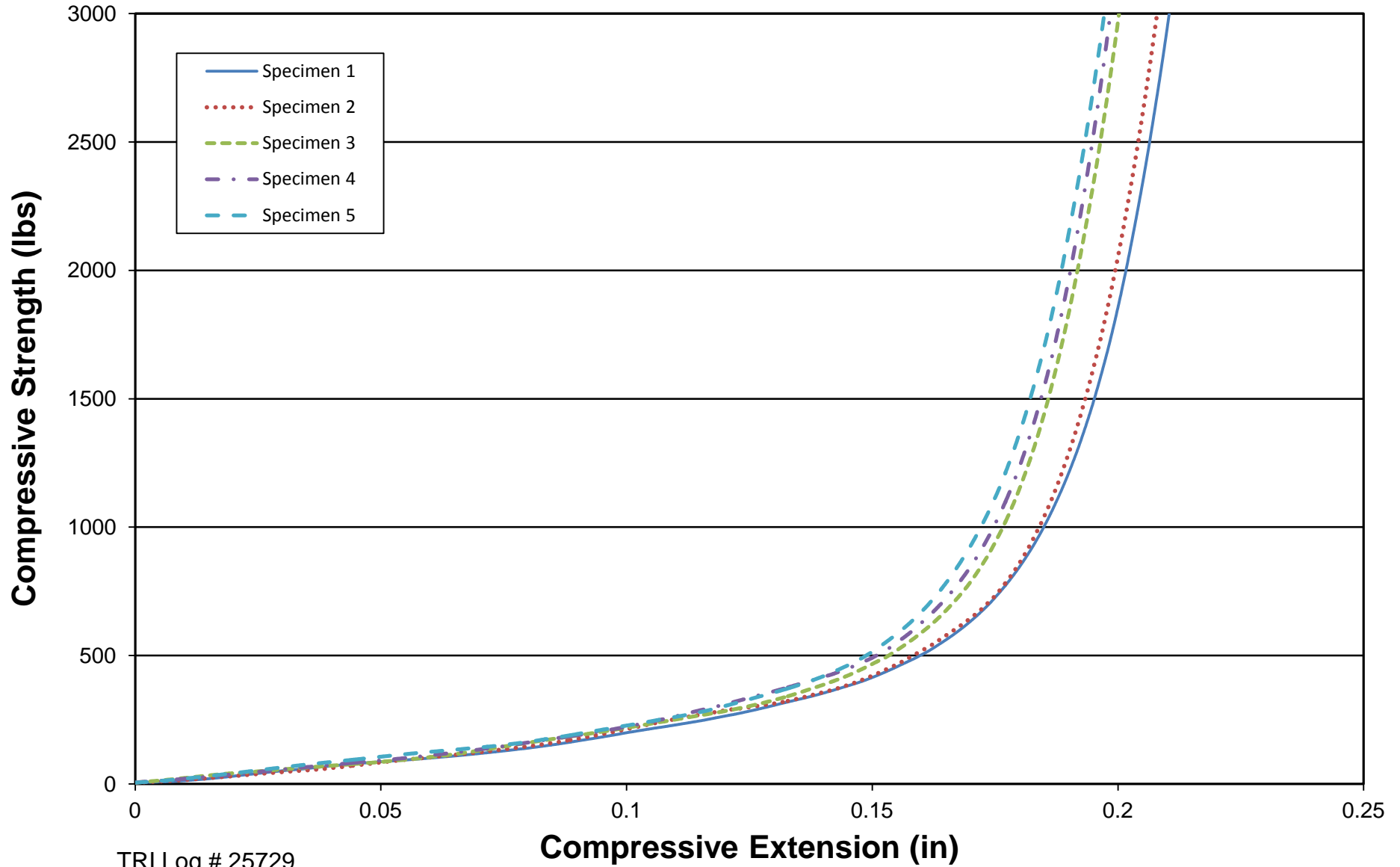
Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN, DEV. Rows include Compressive Strength (ASTM D 6364), Original Thickness (in), Compressive Strength (lbf), Compressive Strength (psf), Extension @ Compressive Strength Point (in), and Thickness @ Compressive Strength Point (in).

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



Compression Test Results

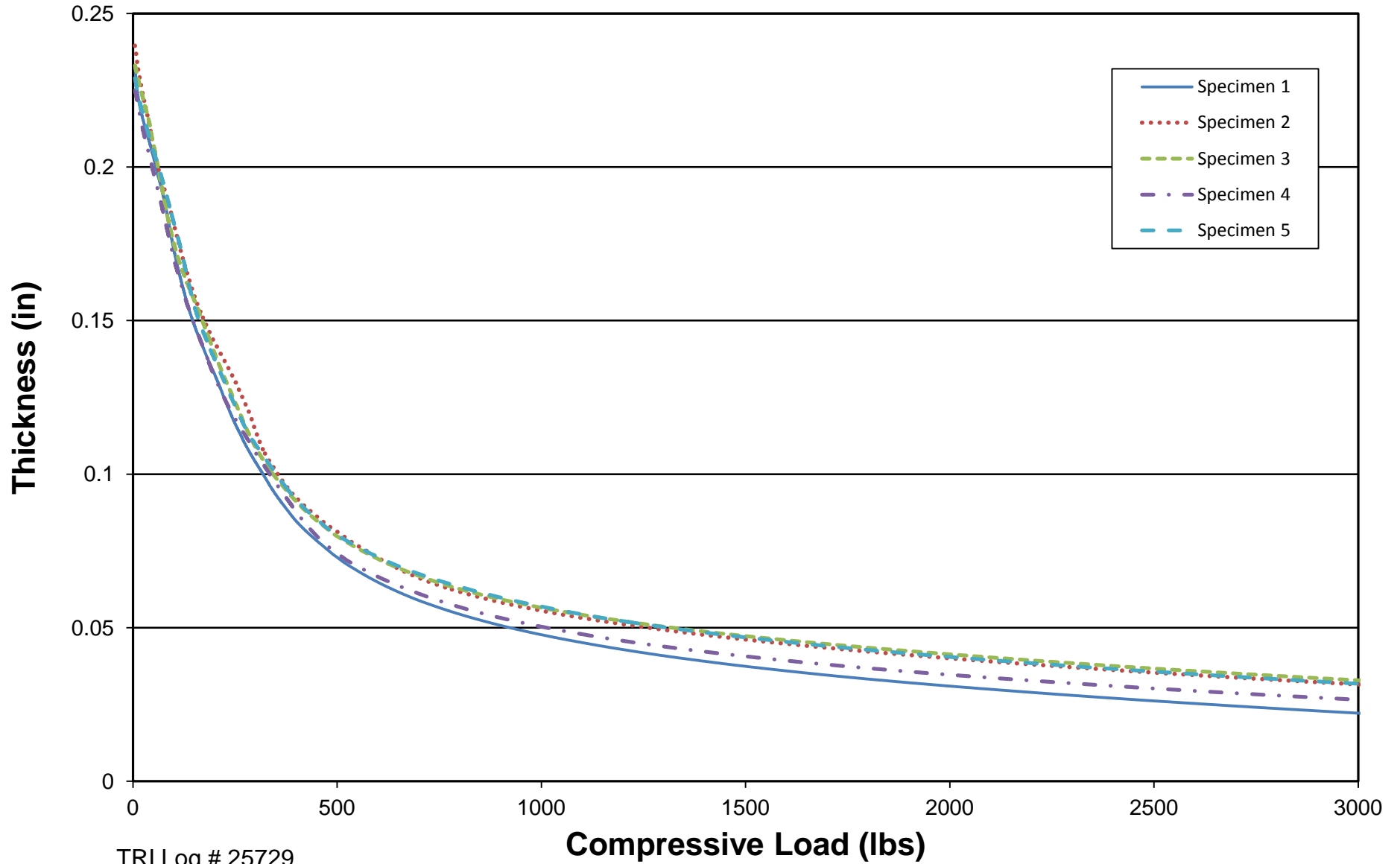
TRI Client : Mortar Net Solutions
Product: Driplane



TRI Log # 25729



Compression Test Results
TRI Client : Mortar Net Solutions
Product: Driplane



TRI Log # 25729



LABORATORY TEST RESULTS
TRI Client: Mortar Net Solutions

Material: Drainage Material
Sample Identification: Driplane
TRI Log #: 25729

PARAMETER	TEST REPLICATE NUMBER					MEAN	DEV.
	1	2	3	4	5		
Water Exposure - 168 hours @ 50 C (ASTM D 5322)							
Strength Retained measured via Compressive Strength (ASTM D 6364)							
Compressive Strength (lbf) - B	381	408	590	452	404	447	84
Compressive Strength (psf) - B	1524	1632	2360	1808	1616	1788	336
Compressive Strength (lbf) - E	474	423	458	404	447	441	28
Compressive Strength (psf) - E	1896	1692	1832	1616	1788	1765	111
UV Resistance - 336 hrs (ASTM G 154, Cycle 1)							
Strength Retained measured via Compressive Strength (ASTM D 6364)							
Compressive Strength (lbf) - B	381	408	590	452	404	447	84
Compressive Strength (psf) - B	1524	1632	2360	1808	1616	1788	336
Compressive Strength (lbf) - E	514	472	453	471	415	465	36
Compressive Strength (psf) - E	2056	1888	1812	1884	1660	1860	143
Freeze Thaw Exposure (25 cycles of 3 h at (50 ± 2) °C, 3 h in water at (21 ± 2) °C, 18 h at (-10 ± 2) °C)							
Strength Retained measured via Compressive Strength (ASTM D 6364)							
Compressive Strength (lbf) - B	381	408	590	452	404	447	84
Compressive Strength (psf) - B	1524	1632	2360	1808	1616	1788	336
Compressive Strength (lbf) - E	457	409	403	479	443	438	32
Compressive Strength (psf) - E	1828	1636	1612	1916	1772	1753	129
Heat Aging and Exposure - 90 days @ 77C (ASTM D 3045)							
Strength Retained measured via Compressive Strength (ASTM D 6364)							
Compressive Strength (lbf) - B	381	408	590	452	404	447	84
Compressive Strength (psf) - B	1524	1632	2360	1808	1616	1788	336
Compressive Strength (lbf) - E	474	487	469	430	410	454	33
Compressive Strength (psf) - E	1896	1948	1876	1720	1640	1816	130
Pre expose Thickness (inch)	0.230	0.232	0.232	0.230	0.224	0.230	0.003
Post expose Thickness (inch)	0.233	0.231	0.236	0.226	0.225	0.230	0.005

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



LABORATORY TEST RESULTS
TRI Client: Mortar Net Solutions

Material: Drainage Material
Sample Identification: Driplane
TRI Log #: 25729

Mold and Fungi Resistance - 28 days (ASTM C 1338)

Table with 5 columns: Material, After 1 Week, After 28 Days, Fungal Growth, Results. Rows include Sample - Insect/Mortar Scen Down, Sample - Insect/Mortar Scen Up, Comparative Item - Wood, Negative Control, Viability Control (Sabouraud agar), and Viability Control (Czepek agar).

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.