



Element Materials Technology
662 Cromwell Avenue
Saint Paul, MN 55104
USA

P 651 645 3601
F 651 659 7348
info.stpaul@element.com
element.com

COMPRESSION TESTING OF TRUEGRID PERMEABLE PAVERS

Stiles Manufacturing LLC
2500 Summer Street
Houston, TX 77007
Attn: Barry Stiles

Date: February 2, 2017
Author: Luke Tavernit
Report Number: ESP024732P
Client Reference: 1326

Respectfully submitted,

Luke Tavernit, P.E.
Senior Engineer, Building Product Evaluation
Phone: 651-659-7271

The data herein represents only the item(s) tested. This report shall not be reproduced, except in full, without prior permission of Element Materials Technology.

EAR Controlled Data: This document contains technical data whose export and re-export/retransfer is subject to control by the U.S. Department of Commerce under the Export Administration Act and the Export Administration Regulations. The Department of Commerce's prior written approval is required for the export or re-export/retransfer of such technical data to any foreign person, foreign entity or foreign organization whether in the United States or abroad.

This project shall be governed exclusively by the General Terms and Conditions of Sale and Performance of Testing Services by Element Materials Technology. In no event shall Element Materials Technology be liable for any consequential, special or indirect loss or any damages above the cost of the work.

INTRODUCTION

Four (4) various TRUEGRID permeable pavers were received from Stiles Manufacturing LLC of Houston Texas. The pavers were either TRUEGRID ECO or TRUEGRID PRO PLUS. Test specimens before testing can be seen in Figure 1 and Figure 2. The specimens were received for compression testing. The testing and data analysis were completed on February 1st, 2017. The following report documents this testing.

SUMMARY OF RESULTS

Test Number	Sample	Platen Size	Maximum Load (lbf)	Maximum Stress ¹ (psi)	Deflection at Maximum Stress ² (in)
1	TRUEGRID ECO	4.75" x 4.75"	400,000	17,729	0.6685
2	TRUEGRID ECO	4.75" x 8.25"	400,000	10,207	0.5165
3	TRUEGRID PRO PLUS	4.75" x 4.75"	400,000	17,729	1.2600
4	TRUEGRID PRO PLUS	4.75" x 8.25"	400,000	10,207	1.1060

Notes: 1) Maximum stress calculated based on total area of the platen.
2) Maximum deflection is the total deflection measured from the starting point of the top platen to the ending point.

TEST METHOD

Each paver was placed on a flat loading platen on the test machine. A cardboard ring was set around the specimen which was then filled with Quikrete mason sand, an all purpose sand that meets ASTM C144. A 4.75 inch square or 4.75 inch by 8.25 inch rectangular steel loading platen was placed on the specimen. A spherical compression loading joint was attached to the test machine, to make up for any slight misalignment in the test specimens or test machine. Load was applied at approximately 0.2 inches per minute, until 400,000 pounds of force (the limit of the test machine) was achieved. Load and deflection were recorded for each specimen. Stress was then calculated based on the area of the platen. A photograph of the test setup can be seen in Figure 3.

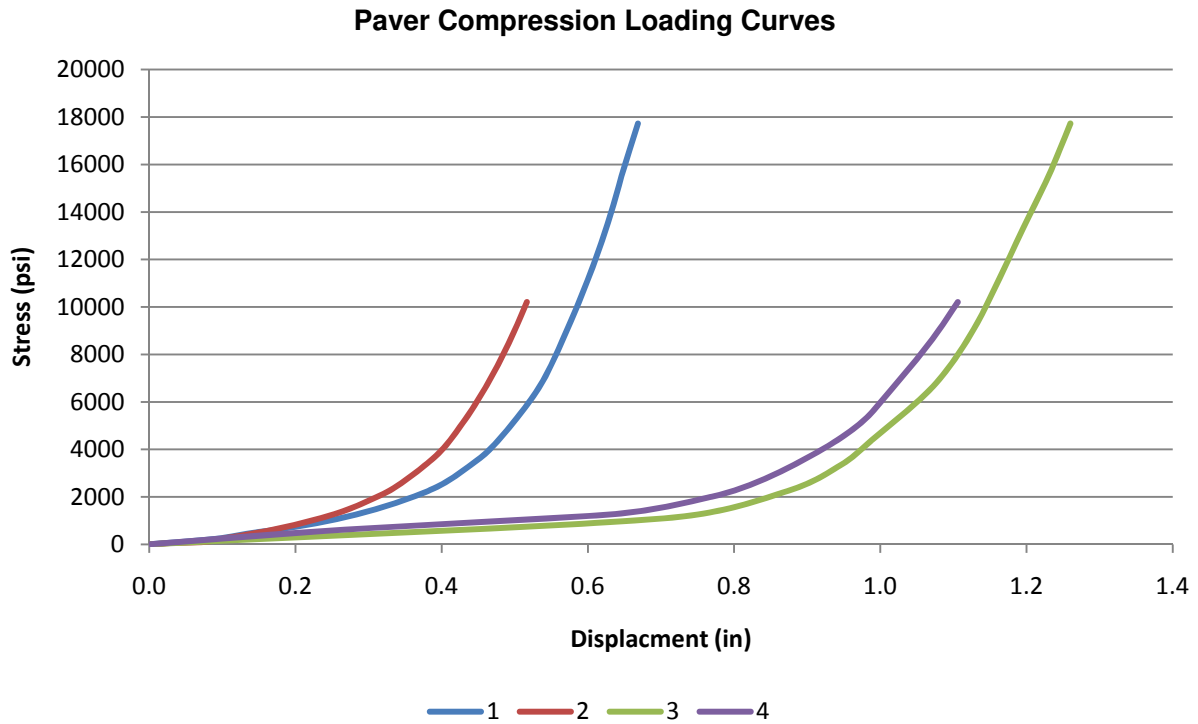
TEST EQUIPMENT

1. Forney Compression Machine, CME-CON-069, Calibrated 09/21/2016, Calibration Due 09/21/2017
2. 0-2" Dial Indicator, CME-SPC-144, Calibrated 08/18/2016, Calibration Due 08/18/2017

REMARKS

All samples will be retained for 30 days and then discarded unless directed otherwise by the customer.

TEST RESULTS



DIGITAL PHOTOS



Figure 1 – A photograph of the TRUEGRID ECO used in tests 1 and 2



Figure 2 – A photograph of the TRUEGRID PRO PLUS used in tests 3 and 4



Figure 3 – An overall photograph of the test setup

NOTE from TRUEGRID Pavers:

TRUEGRID formally announces effective 1 September 2019, the product known as TRUEGRID® ECO™ (ECO) has changed its name to TRUEGRID® PRO LITE™ (PRO LITE). PRO LITE™ product dimensions, additions, properties, material source, and components remain the same as ECO™.