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Proof Load Testing

United Tool and Mold

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ESP041287P.1R0

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Email Confirmation

REVISION NOTES

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0	Original Release	1/15/24

Respectfully submitted,

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INTRODUCTION

This report presents the results of compressive proof load testing. The samples were submitted to our laboratory by Valerie Hall of United Tool and Mold. The testing and data analysis were completed on December 26, 2023.

OBJECTIVE

The scope of work was limited to testing the samples submitted. Testing was performed per customer specifications.

SAMPLE IDENTIFICATION

Submitted by	United Tool and Mold
Sample Description	2" Rhinofeet – Quantity 10 3" Rhinofeet – Quantity 10 4" Rhinofeet – Quantity 10 5" Rhinofeet – Quantity 10

Table 1. Sample Descriptions

The results of this test apply only to the units identified in this Engineering Report by device identifier and model / part number, or serial number.

TEST METHOD

Samples were placed on the 200,000lb capacity Tinius Olsen test frame and loaded to the rated load.

2" samples were loaded to 7000lbs and held for 5 minutes

3" samples were loaded to 7000lbs and held for 5 minutes

4" samples were loaded to 7000lbs and held for 5 minutes

5" samples were loaded to 15,000lbs and held for 5 minutes

CALIBRATED TEST EQUIPMENT

Description	Asset ID#	Calibration Due Date
Tinius Olsen 200k	MTA-040	04-MAY-2024
Temp/RH	MTA-114	16-NOV-2024

Table 2. Test Equipment

SUMMARY OF RESULTS

All samples withstood their rated load with no issues.

2" samples held 7000lbs for 5 minutes

3" samples held 7000lbs for 5 minutes

4" samples held 7000lbs for 5 minutes

5" samples held 15,000lbs for 5 minutes

The ultimate failure loads tested under Report ESP040694P.1R0 are reported here for reference:

Customer Supplied Information			Testing completed under ESP040694P.1R0		
Sample ID	Proof Load	Stated 3X Safety Factor	Quantity Tested	Minimum Ultimate Load	Maximum Ultimate Load
2-inch	7000lbs	21000lbs	10 Samples	28825lbs	29232lbs
3-inch	7000lbs	21000lbs	10 Samples	39257lbs	40006lbs
4-inch	7000lbs	21000lbs	10 Samples	37616lbs	38683lbs
5-inch	15000lbs	45000lbs	10 Samples	70624lbs	72039lbs

Table 2. Summary of Results of Testing to Failure

The ultimate loads reported in ESP040694P.1R0 exceeds the stated 3x safety factor.

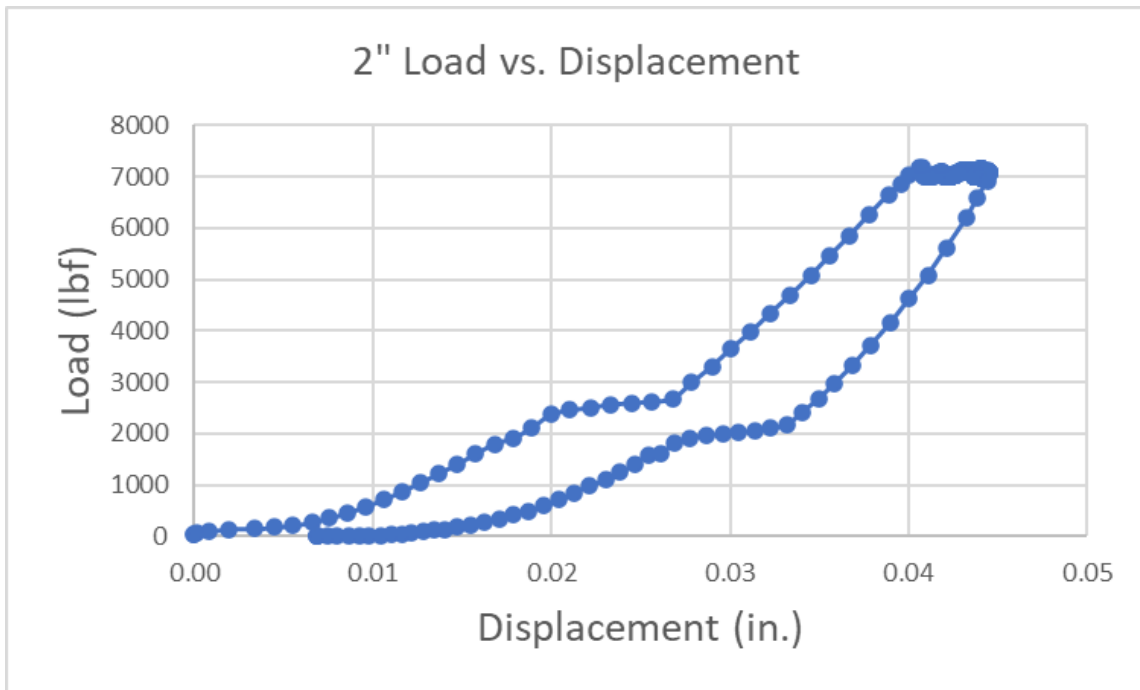
TEST DATA

Figure 1. Compressive Load (Force) vs Deflection (Inches) Curve for a 2-inch Sample

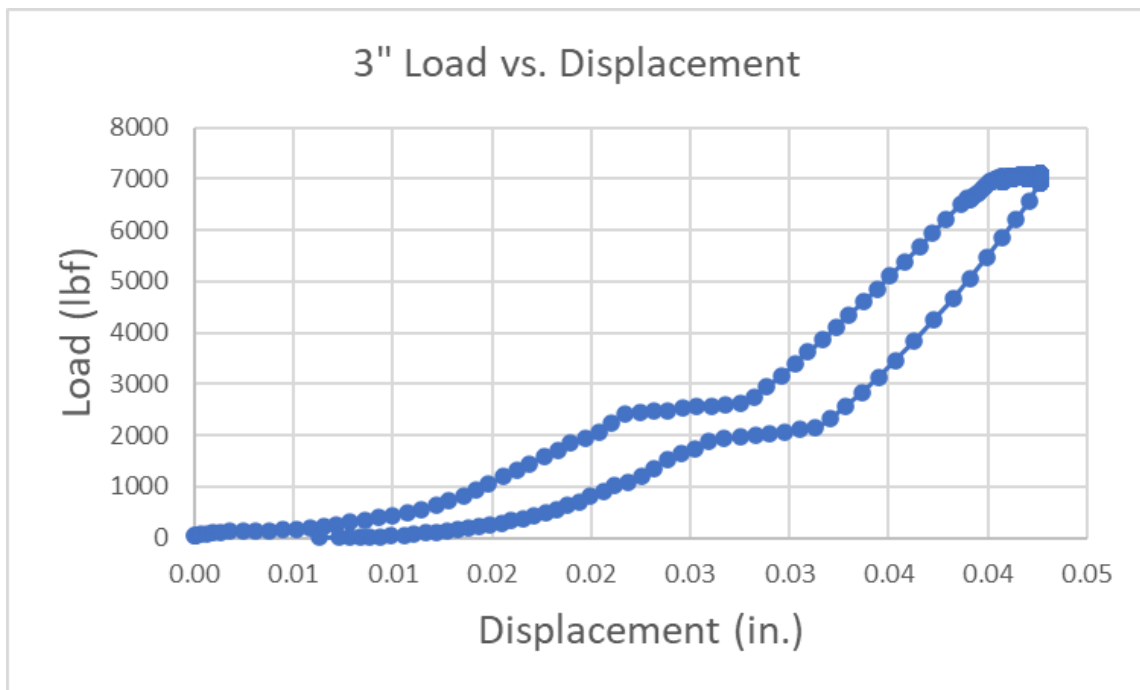


Figure 2. Compressive Load (Force) vs Deflection (Inches) Curve for a 3-inch Sample

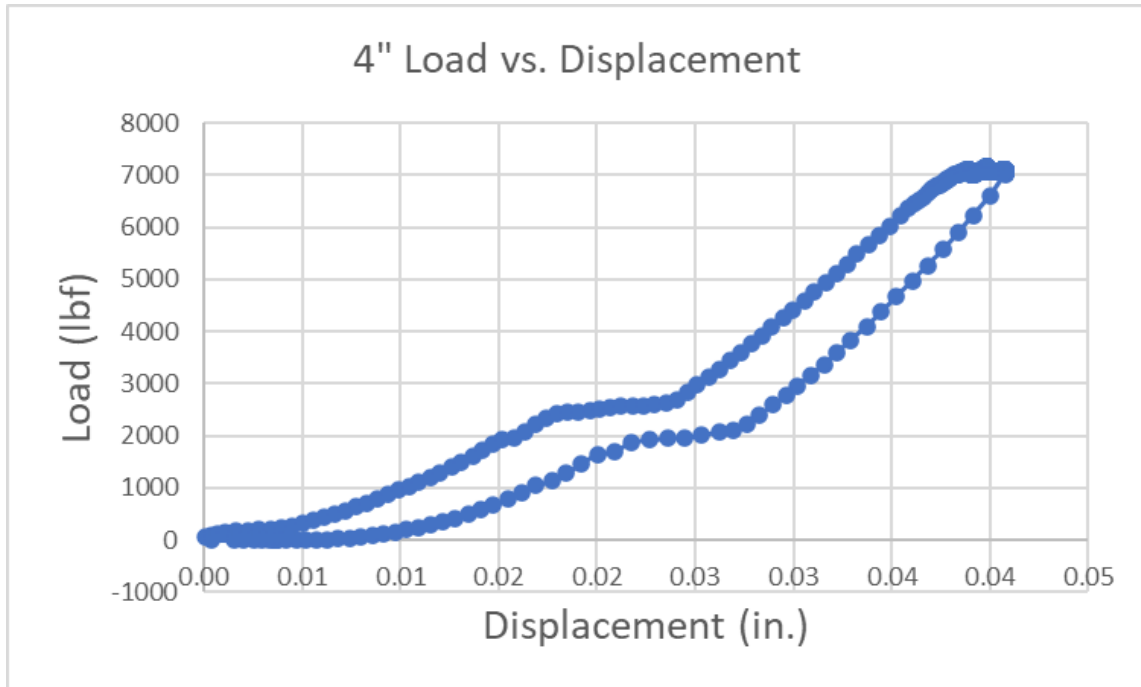
TEST DATA

Figure 3. Compressive Load (Force) vs Deflection (Inches) Curve for a 4-inch Sample

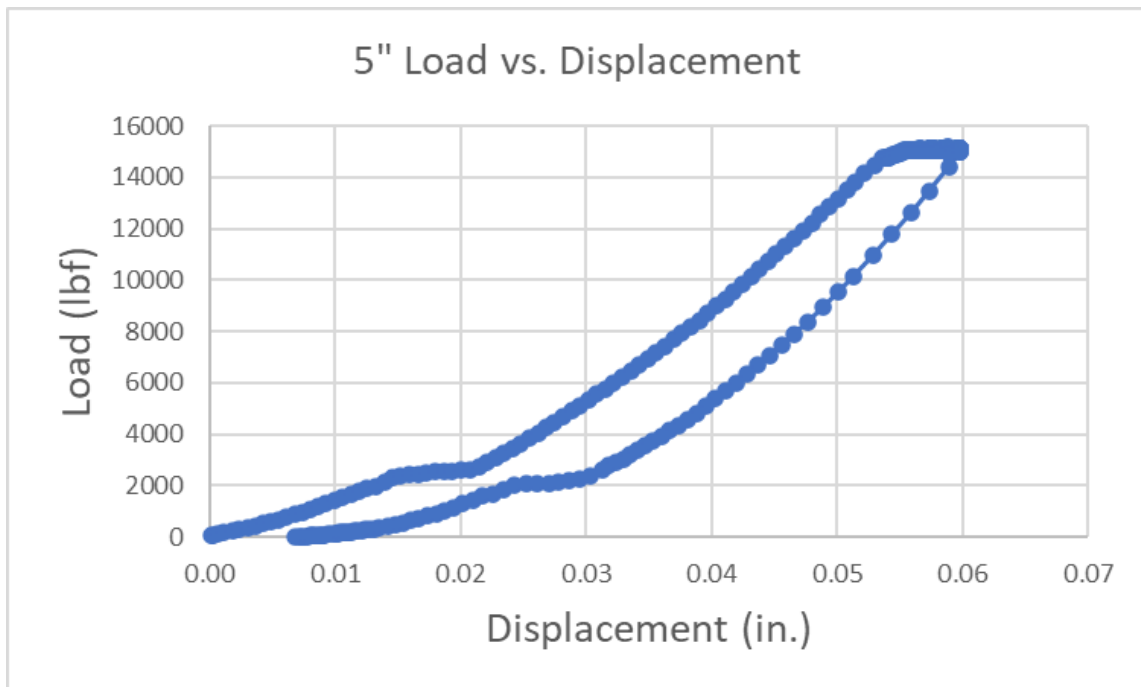


Figure 4. Compressive Load (Force) vs Deflection (Inches) Curve for a 5-inch Sample