

Infinity Testing Solutions

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Screw Jack Strength Test

Report Number: 22010058

Proposal Number: P22-0063

Report for: **Conqueror Building Materials Inc.**
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Mississauga, ON L5L 5B9

Attention: Reuben Massey

Telephone: (416) 428-6697

Report Date: February 16, 2022

1 INTRODUCTION

At the request of Conqueror Building Materials Inc, Infinity Testing Solutions (ITS) conducted compressive testing on a scaffold screw jack in accordance with *ITS SOP 9: Tension and Compression Test Procedure, Rev. 3*. The sample was assigned an ITS sample number as follows:

ITS Sample Number	Sample Description
22010058-1	Screw jack for aluminum scaffold frame

Testing was performed February 14th, 2022.

2 TEST PROCEDURES AND SPECIFICATIONS

2.1 Test Equipment

The tests were performed using a servo-hydraulic actuator and load frame secured to a heavy-duty T-slot testbed. The tests were controlled using an RMC75E servo-controller and a LabVIEW-based control program.

2.2 Setup and Procedure

The sample was extended to the manufacturer's maximum recommended extension, 22.5" (Figure 1). The free portion of the screw above the nut was placed inside a thick-walled tube fixture. For testing purposes, the sample and the fixture were oriented upside down and centred below the actuator, as shown in Figure 2. Load was increased at a constant rate of 5,000 lbf/minute until the client's target load of 50,000 lbf was reached. The load was then increased in increments of 5,000 lbf until reaching 65,000 lbf. Load was held for one minute at each increment.

2.3 Measurement Instruments

Instrument Name	ITS ID	Serial Number	Range	Calibration Due
Honeywell 3156 Load Cell	M0034	1402236	100,000 lbf	2022-09-10
Tempsonics G-Series LVDT	M0064	90019719	24"	2022-03-10
Starrett TX1026ME Tape Measure	M0302	20470685	26'	2022-12-24

3 RESULTS

The same withstood a compressive load of 65,000 lbf with no visible deformations or failures. The nut was able to spin freely on the threads after testing. The sample during is shown in Figure 3. Recorded test data is shown in Figure 4.

Infinity Testing Solutions Inc.

Reported by:



Marc Crans, Technical Manager

This report refers only to the particular samples provided, and is limited by the test and/or analysis performed. Similar articles may not be of like quality, and other testing and/or analysis methods might give different results.

FIGURES

(4 Pages)



Figure 1: Clamp force test setup



Figure 2: Clamp force test, hand tight + full turn, compressive load of 1,147 lbf

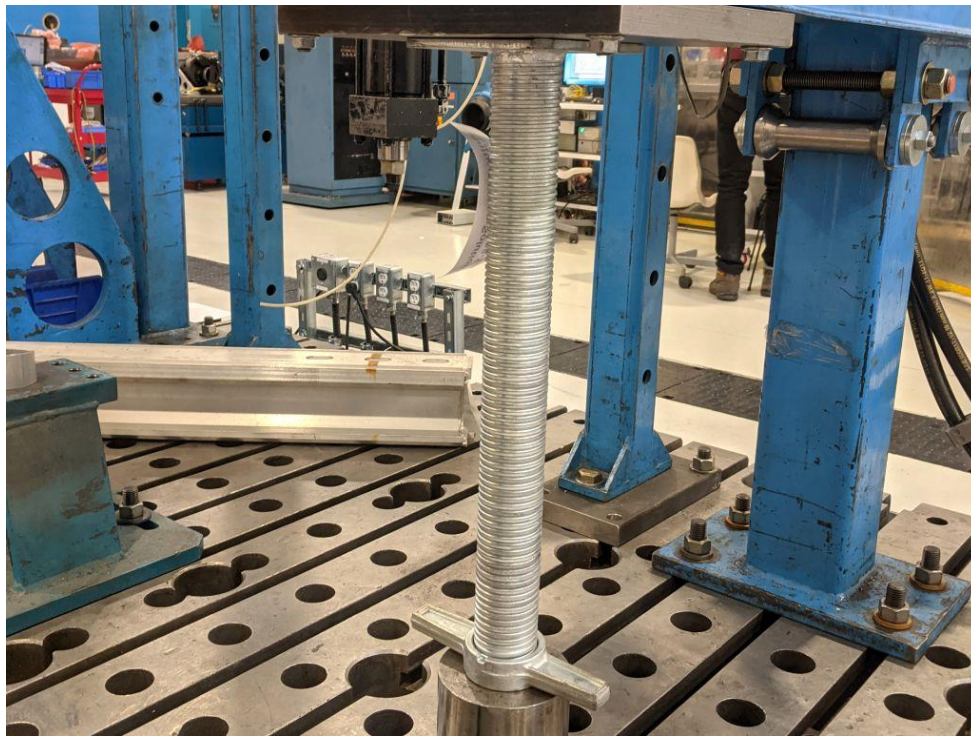


Figure 3: Sample 22010053-4 threaded tube moment capacity test setup

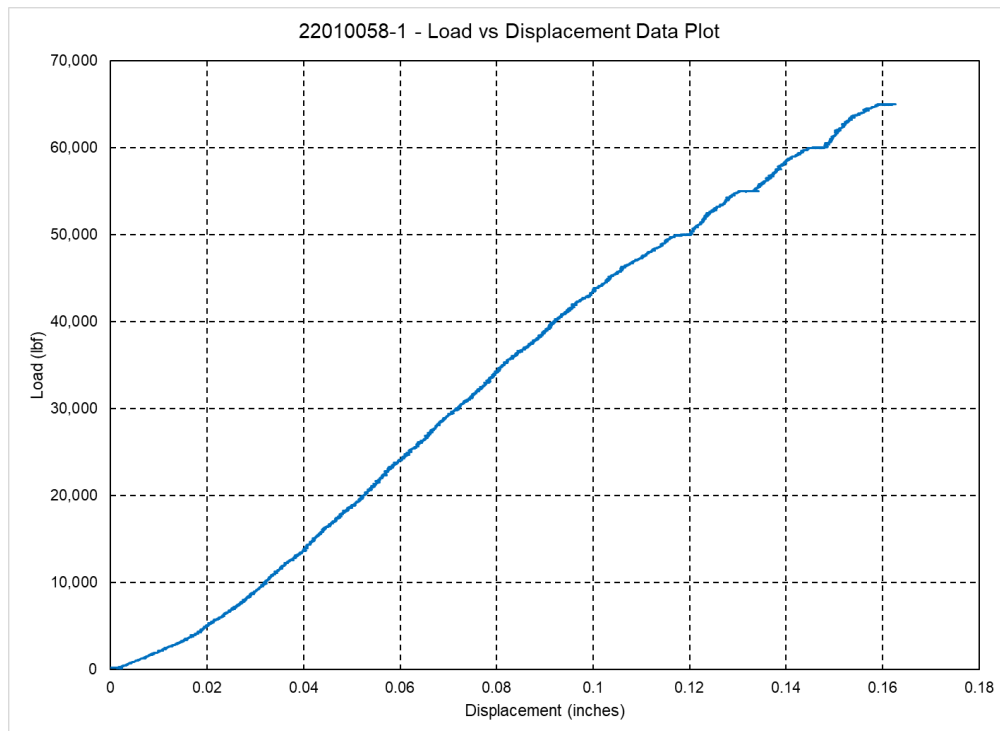


Figure 4: Load vs displacement data plot