

October 2, 2019 (REVISED: 10/9/2019)

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Subject: 2 7/8" Diameter Push Pier Foundation System
CTL|T Project Number: FC08472.001 R2

Mr. Patton,

This document summarizes the tested capacity of the 2 7/8" diameter push pier foundation system manufactured by Stabil-Loc. The Stabil-Loc Push Pier Foundation System is a double walled steel shaft system, comprised of a series of 2 3/8" diameter x .188" thick inner sleeves and 2 7/8" diameter x .217" thick outer sleeves. The length of the double walled shaft system will vary based on site and/or soil conditions. The push pier shaft is secured to the foundation by way of the Adjustable Head Assembly. The Head Assembly consists of the head plate (set on the shaft), the shim block (fastened concentrically to the head plate to allow for height adjustments in the field and prevent over lifting of the structure), and the top bearing plate (an angle fastened to the bottom of the foundation). All steel angles and plates are A36 steel and the round HSS tubes are A500-Grade B.

CTL | Thompson (IAS Accredited testing laboratory TL-342) performed product testing on the 2 7/8" diameter push pier foundation system in accordance with ICC-ES acceptance criteria AC358 (approved September 2017). This included five tests on the Adjustable Head Assembly and five Axial Compression tests on the Pier Assembly Segments. The testing results for the Adjustable Head Assembly were accompanied by calculations completed by CTL | Thompson to fully satisfy the requirements of AC358.

To test each Pier Assembly, a 30" long steel tube section made up of a 12" starter assembly, a 12" assembled inner & outer pier segment, and a 6" assembly inner & outer pier segment, were loaded into a vertical load frame. The five Axial Compression tests on the Pier Assembly yielded an average maximum Ultimate Load on the pier of 258.6 k (kips). After applying a standard safety factor of 2 and calculating the required corrosion reduction factors, the Allowable Load capacity of the Pier Assembly Segment is 105.5 k (bare steel) and 119.9 k (galvanized).

Testing of the Adjustable Head Assembly was completed using the same pier assembly setup with a complete adjustable head assembly at the base. The five tests measured an average Ultimate Load Capacity of the Adjustable Head Assembly to be 193.8 k. After applying a standard safety factor of 2, the Allowable Load Capacity becomes 96.9 k.

These values are based solely on the Push Pier Foundation structural system. They do not account for site-specific soil conditions, capacity of the foundation concrete, or capacity of the structure above.

Thank you for selecting CTL|THOMPSON for your engineering needs. When we can be of additional service, please contact the undersigned.

Sincerely,
CTL|THOMPSON, INC.

A handwritten signature in blue ink, appearing to read "Nick Reuter".

Nick Reuter, EIT
Project Engineer

Wayne Thompson, PE
Project Manager