

Foundation Engineering Specialists LLC

365 Enterprises Inc.



Stratos Pier Systems
5857 Raytown Road
Raytown, MO 64133

RE: Stratos Pier Systems

Foundation Engineering Specialists, LLC was hired to perform testing of the Stratos Pier System to comply with the requirements of ASTM D1143 based on the 2015 International Building Code. Per the requirements of the code an engineering analysis was performed on all the components of the pier. The data gathered from the test performed revealed that the torsion assembly was the controlling capacity in the design. The final result of the test showed that the pier does conform to ASTM Standard testing D1143.

It is the opinion of FES that the Stratos Pier System is adequate for residential and light commercial foundation piling in comparable soils to those the test was performed in (SPT blow count ≥ 10) using the above capacity with a safety factor of 2.

The Stratos Pier System consists of 2 ½" diameter, 15" long steel pipe segments with 4" coupler segments that have nested inner tubes. The pier segments directly bear on each other with the coupler providing alignment. The lead segment (Impact Segment) is driven into the soil and followed by the steel segments that bear directly on the previous segment until reaching a refusal layer of soil or bedrock. After the piers are driven to refusal, the Platform Assembly is placed over the final segment. The installer can then lift the structure using a hydraulic ram or jack. After lifting or stabilizing the structure the installer then installs the "Torsion Block" consisting of 2 ½" solid steel, a 1 ½" diameter solid threaded steel rod, and "Torsion Joint" a ball-and-socket steel joint that rests upon the top allowing for 8 degrees of tilt of the foundations bearing surface relative to the longitudinal axis of the pier. The Torsion Block threads onto the threaded rod is adjusted to the appropriate bearing height, and the torsion joint bears against the "Impact Plate" a steel channel that is then in direct contact with the foundation to displace the contact point that is bearing on the pier.

Regards,

Erik Messner, PE

Structural Engineer

Foundation Engineering Specialists, LLC

