Recommended Design Criteria for Helical Screw-in Foundation

A. Purpose

This Manual Part recommends design criteria for helical screw-in foundations.

B. Design

1. Steel shall conform to Manual Part 15.1.4, Section 1, Recommended Developmental Criteria for Various Types of Steel. All material should be new, unused and mill traceable steel.

   a. Steel shaft shall conform to one of the following specifications:

      (1) ASTM International A252-10 (2018) Standard Specification for Welded and Seamless Steel Pipe Piles Grade 2

      (2) ASTM International A53/A53M-12 18 Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless Type E or S Grade B.

      (3) ASTM International A500/A500M-13 18 Standard Specification for Cold Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes Grade B.

   b. Steel plates shall conform to ASTM International A36/A36M-12-14 Standard Specification for Carbon Structural Steel.

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Coils, Hot-Rolled, Alloy, Carbon, Structural, High-Strength Low-Alloy, and High-Strength Low-Alloy with Improved Formability, General Requirements.


4. After fabrication, the foundation shall be hot dipped galvanized conforming to ASTM International A123/A123M-13 Standard Specification for Zinc Hot Dipped Galvanized Coatings on Iron and Steel Products.

5. Bolts, nuts and washers shall be galvanized conforming to Manual Part 15.3.1 Recommended Developmental Criteria for Metallic Coating of Metals.

6. All joints to be welded by American Welding Society (AWS) certified welders using certified welding procedures.

C. Other Considerations

Manual Part 14.4.38 Recommended Instructions for Helical Screw-In Foundations.