

TEXAS DEPARTMENT OF TRANSPORTATION  
SPECIAL SPECIFICATION TO-7125  
GROUND SCREW FOUNDATION FOR SMALL SIGN SUPPORTS

**1.0 SCOPE**

This specification sets the minimum acceptable requirements for galvanized ground screw foundations for small sign supports utilizing a triangular slip plate, manufactured from steel.

**2.0 GENERAL REQUIREMENTS**

2.1 Perform all welding fabrication per the AWS D1.1 Structural Welding Code-Steel.

2.2 The entire screw foundation must be hot-dip galvanized after fabrication in accordance with the requirements of ASTM A-123, and the minimum coating thickness for the tube portion shall be 3.5 mils.

2.3 The tubing for the ground screw must meet the requirements of ASTM A-501 Grade B.

**3.0 DESIGN REQUIREMENTS**

3.1 The ground screw must be a minimum of 50 inches in length, with an outside diameter of 3.500 inches and an inside diameter of 3.193 inches.

3.2 The bottom portion of the ground screw must taper to a point over 13 inches or more.

3.3 The fins must be 0.088 inches thick by 0.40 inches wide, extended along the length of the ground screw tube at a 2-inch pitch beginning approximately 21 inches from the top of the ground screw to approximately 3 <sup>3</sup>/<sub>4</sub> inches from the bottom of the ground screw.

3.4 The ground screw must have a minimum <sup>5</sup>/<sub>8</sub> - inch thick triangular slip plate welded to the top of the ground screw. This plate shall be compatible for connection and use with the slip base of the TxDOT Triangular Slipbase System noted in Department Standard sheet SMD (SLIP-1).

**4.0 EQUIPMENT REQUIREMENTS**

4.1 Installation must not require specialized drilling equipment. The ground screw must be capable of being installed using drilling equipment typically used by the department for installing concrete foundations. Drilling equipment operating at 3,500ft-lbs of torque must be sufficient to properly install the device.

**5.0 INSTALLATION**

5.1 Ground screw installation must result in little to no disturbance or upheaval of the surrounding soil.