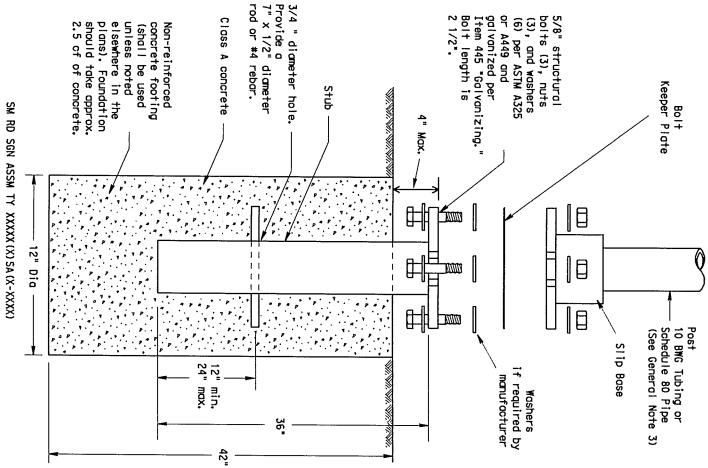


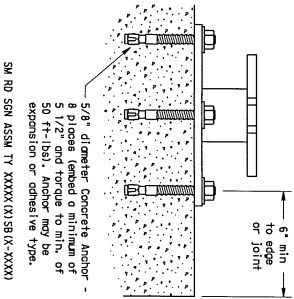
TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. http://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturer's recommendations. Installation procedures shall be provided to the Engineer by Contractor.

CONCRETE ANCHOR



SM 80 SSM ASSM T1 XXXXX(K)5A(K)-XXXX

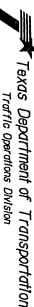
Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end, heavy hex nut per ASTM A563, and non-deformed washer per ASTM A536. The anchor shall be installed in concrete with a minimum compressive strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, conforming to the requirements of Item 445. How stud bolts, installed with Type III epoxy per DMS-5109, "Epoxyes and Adhesives," Adhesive anchors may be loaded after adequate epoxy recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal weight concrete with a 1/2" diameter hole, shall be installed in a minimum ultimate tension and shear of 3900 and 3100 psi, respectively.

GENERAL NOTES:

- Slip base shall be permanently marked to indicate manufacturer, method, design, and location of marking or subject to approval of the TxDOT Traffic Standards Engineer.
- Material used on post with this system shall conform to the following specifications:
 - 10 BNC Tubing (2.815" outside diameter)
 - Steel shall be AISI 4130 or 55 per ASTM A1011 or ASTM A1008
 - Other steels may be used if they meet the following:
 - 55,000 PSI minimum tensile strength
 - 70,000 PSI minimum yield strength
 - Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
 - Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
 - Galvanization per ASTM A123 or ASTM A653 G20. For pre-coated steel tubing (ASTM A653), report tube outside diameter weld seam by metallizing with zinc wire per ASTM B533.
 - Sealed 0.215" nominal wall thickness (overturn)
 - Steel tubing per ASTM A550 or C
 - Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
 - 60,000 PSI minimum yield strength
 - 60,000 PSI minimum tensile strength
 - 21% minimum elongation in 2"
 - Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
 - Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
- Galvanization per ASTM A123
- Universal Triangular Slipbase System components. The website address is: <http://www.txdot.gov/divisions/traffic.htm>
- Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

- Foundation
 - Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
 - The Engineer may permit borings or concrete tests less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
 - Push the pipe end of the slip base stud into the center of the concrete, rotate the stud back and forth while pushing it down into the concrete to ensure good contact between the concrete and stud. Continue to work the stud into the concrete until it is between 2 to 3 inches from the top of the hole.
 - The Triangular slipbase system is multidirectional and is designed to release when struck from any direction.
- Support
 - Support support so that the bottom of the sign will be 1 to 1.5 feet above the edge of the roadway (11.6 edge of the closest lane) when slip plate is above the edge of the roadway. The cut shall be plumb and vertical.
 - Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2)-109 for clearances based on sign types.


Texas Department of Transportation
 Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM
SMD (SLIP-1) -08

9-08	REVISED	REVISED	REVISED
DATE	BY	DATE	BY