

**Commonwealth of Pennsylvania
Department of Transportation**

SPECIFICATION FOR SIGN STIFFENERS AND ACCESSORIES

July 3, 2025

1. DESCRIPTION

This material is for use in conjunction with flat sheet aluminum for the fabrication of large flat sheet aluminum stiffened signs. The flat sheet aluminum is riveted to the stiffeners which, in turn, are clamped, banded, or bolted to posts or sign structures. All items shall work as components of a system.

2. REQUIREMENTS

2.1 Stiffeners

2.1.1 Option 1: The stiffeners shall be extruded aluminum conforming to ASTM-B209, Alloy 6061-T6 and shall be free of stampings, labels, and other commercial advertising. The length shall be as specified for each item, and the cross-sections shall conform to Attachment No. 1. All stiffeners to be banded 10 per bundle.

Bolts, Nuts, and Lock Washers.

2.1.2 For use with 2.1.1 Option 1. Stainless steel, Type 304, 5/16"x 1" (Butting Plates - 1600), as specified with hex nuts. Standard bolts shall have a 1/2-inch square head with a 1/8-inch thickness. Twist-in bolts shall have parallelogram head 0.3125" x 1.000", with a 0.130" thickness, designed to fit into the continuous slot of any of the stiffener sections. Twist-in bolts, nuts, and lock washers bought as a separate item shall be packaged 50 units per box (all orders for twist-in bolts will be in multiples of 50).

2.2 Bucklestraps. Each bucklestrap shall consist of two bright annealed Type 201

stainless steel straps, 0.750"x0.030", with a Type 304 stainless steel toggle attached to one end of each strap by at least two projection welds, and a Type 304 stainless steel buckle attached to the other end of the shorter strap by at least two projection welds.

The buckle shall be formed from 0.0625-inch thick stock with the foot bent at 90° and designed to be inserted into the continuous slot of any of the stiffener sections identified under 2.1.1 Option 1. The strap shall be attached to the toggle at the end opposite the foot. The buckle shall be 0.0625-inch thick, 1.6 inches wide by a minimum 1.75 inch long including "U-shaped" locking tabs and a buckle slot on the face of the buckle.

When the buckles are inserted in the slot of a stiffener identified under 2.1.1 Option 1 and the straps are normal to the back of the stiffener, the longer strap shall be of sufficient length so that the end of the strap is 12, 16, or 20 inches from the back of the stiffener as specified, while the shorter strap shall be of sufficient length so that the slot in the buckle is 6, 8, or 10 inches, respectively, from the back of the stiffener.

3. PACKAGING

All boxes shall be labeled with item name and quantity for each box and banded to pallets and all stiffeners shall be shipped on open-bodied trucks. Spacer blocks shall be used beneath the stiffeners. All items to be positioned so that they can be unloaded from the side with a forklift.

A handwritten signature in blue ink, appearing to read 'R. Pento', written over a horizontal line.

Robert J Pento, P.E., Chief
Traffic Engineering & Permits Section