

Section 4144. Structural Plates for Pipe, Pipe Arches, and Arches

4144.01 DESCRIPTION.

Structural units of corrugated metal of the specified thickness.

4144.02 GENERAL REQUIREMENTS.

- A.** Meet the requirements of AASHTO M 167/M 167M for steel or AASHTO M 219/M 219M for aluminum, except as modified in this section.
- B.** Connect plates at longitudinal and circumferential seams with bolts. Stagger joints so that no more than three plates come together at any one point. Curve each plate to one or more circular arcs.

4144.03 FORMING AND PUNCHING PLATES.

- A.** Curve each plate to the proper radius so the cross-sectional dimensions of the finished structure will be as indicated in the contract documents.
- B.** Ensure the diameter of the bolt holes in longitudinal seams, except those at plate corners, does not exceed the diameter of the bolt by more than 1/8 inch (2 mm). If elongated structural plate pipe is specified or called for in the contract documents, form the plates so the finished pipe is elliptical in shape with the vertical diameter approximately 5% greater than the nominal diameter of the pipe.

4144.04 ASSEMBLY PARTS.

Use bolts that meet the requirements of ASTM A 449 or ASTM A 325, or are an approved equal. Use galvanized bolts and nuts.