

SECTION 023040
TUNNEL LINER PLATE (S-65A)

1. DESCRIPTION

This specification shall govern all necessary work for furnishing tunnel liner plate required to complete the project.

2. MATERIALS

Tunnel liner plate shall be designed in accordance with AASHTO "Design Specification for Tunnel Liner Plate". It shall be capable of withstanding a unit pressure of 1,400 lb. per square foot at top of liner based on safety factors of 3, 2, and 3 for seam strength, buckling and stiffness, respectively.

Liner plate shall be fabricated from structural quality, hot-rolled carbon-steel sheets or plates conforming to ASTM Specification A-569. Plates shall be accurately curved to suit the tunnel cross section and shall be of uniform fabrication to allow plates of similar curvature to be interchanged.

All plates shall be punched for bolting on both longitudinal and circumferential seams and shall be so fabricated as to permit complete erection from the inside of the tunnel. The longitudinal seam shall be of the lap type, with an offset equal to gauge of metal for the full width of plate to allow the cross section of the plate to be continuously through the seam. Circumferential hole spacing will be a multiple of plate length to allow staggering of the longitudinal seam.

Material shall be galvanized and zinc coated in accordance with ASTM Specification A 123, except that the zinc shall be applied at the rate of two (2) ounces per square foot total for both sides.

Material shall be bituminous coated and conform to AASHTO Designation M190.

Bolts and nuts shall be of the diameter and length as recommended by the manufacturer. Galvanized bolts and nuts are required with galvanized plate and shall conform to ASTM Specification A 153.

Liner plate shall be assembled in accordance with manufacturer's instructions.

Longitudinal seams shall be staggered between rings. Liner plate shall be a nominal diameter of 48" after assembly and have a minimum thickness of .1046" or 12 gauge.

3. MEASUREMENT & PAYMENT

Unless indicated otherwise in the Proposal, Tunnel liner plate shall be measured and paid for by the linear foot.