



## SECTION 1021

### BITUMINOUS COATED CORRUGATED METAL CULVERT PIPE AND PIPE ARCHES

**1021.1 Scope.** This specification covers bituminous coated corrugated metal culvert pipe and pipe-arches, to be used for the construction of culverts.

**1021.2 Types of Coated Pipe.** The coated pipe shall be one of the following types as specified in the contract:

Type A. Fully Bituminous Coated.

Type B. Half Bituminous Coated, Paved-invert.

Type C. Fully Bituminous Coated, Paved-invert.

**1021.3 Corrugated Metal Culvert Pipe and Pipe-Arches.** Pipe and pipe-arches shall conform to the requirements of [Sec 1020](#) or [1024](#), as specified. Lift hooks or loops, if agreed upon by the engineer and manufacturer, may be attached to pipe and pipe-arches to facilitate handling.

**1021.4 Coating Requirements.** Pipe and pipe-arches shall be coated with bituminous material as follows for the particular type specified in the contract:

Type A. The pipe shall be uniformly coated, inside and outside, to a minimum thickness of 0.05 inch (1.3 mm) measured on the crest of the corrugations.

Type B. The pipe shall be uniformly coated for approximately one-half the circumference of the pipe (bottom of the pipe when installed), inside and outside to a minimum thickness of 0.05 inch (1.3 mm) measured on the crest of the corrugations. In addition, the bituminous material shall be applied in such manner that one or more smooth pavements will be formed in the invert (inside bottom of the pipe when installed), filling the corrugations for at least 25 percent of the circumference of a pipe and 40 percent of the circumference of a pipe-arch. The pavement shall have a minimum thickness of 1/8 inch (3 mm) measured on the crest of the corrugations, except where the upper edges intersect the corrugations.

Type C. The pipe shall be fully coated as required for Type A and, in addition, a smooth pavement shall be provided as required for Type B.

**1021.5 Bituminous Material.** The bituminous material shall conform to the requirements of AASHTO M 190 except acceptance may be based on samples obtained from storage or from the dipping tanks.

**1021.6 Repair of Damaged Bituminous Coating.** Bituminous coating damaged or displaced during delivery or installation shall be repaired as directed by the engineer by application of hot bituminous material of the same type as that originally used. Care shall be taken to avoid damage to the bituminous material during heating.