

## SECTION 137

### CORRUGATED ALUMINUM PIPE AND ARCHES

#### 137.1 GENERAL

137.1.1 Corrugated aluminum pipe, pipe arches, and connectors to be used or furnished shall be manufactured and inspected in conformance with the requirements of AASHTO M 196, AASHTO M 197, and as hereinafter specified. The size, type, and gauge of the pipe to be furnished shall be shown on the plans or as specified in the Supplementary Specifications.

137.1.2 Corrugated aluminum pipe may be fabricated by riveting or using a helically corrugated aluminum pipe with a continuous helical lock seam paralleling the corrugations.

137.1.3 Corrugated aluminum pipe arches shall consist of corrugated aluminum pipe which has been re-formed for a multi-centered pipe having an arch-shaped top with a slightly curved integral bottom.

137.1.4 The specifications contained herein for pipe shall also apply to pipe arches.

137.1.5 Nominal diameter of dimensions as referred to in AASHTO M 196 and M 197 shall be defined as meaning the minimum inside dimension of the pipe.

137.1.6 Corrugated metal pipe and arches shall only be used for transverse roadway culvert drainage applications.

#### 137.2 REFERENCES:

##### 137.2.1 AASHTO

M 190  
M 196  
M 197

#### 137.3 MATERIALS

Corrugated aluminum products covered by this section may be fabricated of the kind of base metal listed in AASHTO M 196.

137.3.1 **CONNECTING BANDS:** The connecting bands shall conform to the requirements of AASHTO M 196, except that the minimum width of band for helical pipe shall be 12 inches.

137.3.2 **END FINISH:** If headwalls or flared end sections are not being provided and if called for on the

plans or in the Supplementary Specifications, the inlet and outlet of all culverts fabricated of 16 or 14 gauge sheets shall be reinforced in a manner approved by the ENGINEER.

#### 137.4 FABRICATION BY RIVETING

Pipe fabricated by riveting shall conform to AASHTO M 196.

#### 137.5 FABRICATION BY CONTINUOUS LOCK SEAM

137.5.1 Pipes fabricated with a continuous helical lock seam parallel to the corrugations shall conform to the requirements of AASHTO M 197 for Type I without perforations and as specified herein.

137.5.2 Type I helical lock seam pipe may be fabricated in diameter 6 to 96 inches, inclusive.

#### 137.6 BITUMINOUS COATING

137.6.1 When required by the Supplementary Specifications, pipes and connecting bands shall be protected both inside and outside with a bituminous coating. The bituminous coating shall conform to the requirements of AASHTO M 190 and as hereinafter specified.

137.6.2 The bituminous material shall conform to paragraph 4 of AASHTO M 190 except that it shall be at least 99 percent soluble in cold carbon disulfide.

137.6.3 When corrugated aluminum pipes are to be bituminous coated, the fabrication requirements specified in AASHTO M 196 shall be altered so that the rivet heads inside the pipe will be in the valley of the corrugations.

#### 137.7 MEASUREMENT AND PAYMENT

137.7.1 When only required as a separate material item, the following will apply:

137.7.1.1 The measurement of corrugated aluminum pipe and arches will be by the linear foot measured along the centerline of the pipe or arch to the nearest foot.

137.7.1.2 Pipe culvert with beveled or skewed ends will be measured along the invert to the nearest foot.

End sections will be measured by the number of units each. Payment shall be made at the unit prices bid as defined above.

137.7.2 If this material is to be used in conjunction with a complete installation, then the measurement and payment will be defined in Section 910.