



**CORRUGATED ZINC-COATED STEEL PLATES
FOR PIPES & ARCHES**

GENERAL

This memorandum covers galvanized corrugated steel structural plates and fasteners for use in the construction of pipe, pipe arches, arches, underpasses and special shapes for field assembly. Materials shall meet the requirements of AASHTO M167 (M167M) as modified by the Standard Specifications. Acceptance will be based on an approved Fabricator Certificate and Guarantee, a certificate of compliance, and compliance of test results on any sample obtained at random.

Corrugation shall be smooth and shall form continuous curves and tangents. The dimension of the corrugations shall meet the requirements of Table 4 of AASHTO M167 (M167M). Holes shall be provided for connecting headwall anchors.

FABRICATOR CERTIFICATE AND GUARANTEE

Prior to furnishing material for a project the fabricator shall submit a Certification and Guarantee as provided for in AASHTO M167 (M167M) for approval of the engineer. The Manufacturer Certificate and Guarantee shall be submitted annually for each plant location.

Approved Fabricator Certificates and Guarantees are listed in Appendix A.

ACCEPTANCE

Material from a fabricator with an approved certification and guarantee may be incorporated in a project provided each shipment is accompanied by either a bill of lading or a separate letter form listing the information and containing a certification of compliance as outlined below.

The following information and certification shall appear on the above documents.

1. Fabricator Name
2. Description of Materials
3. Cosignee
4. Destination
5. Project Number
6. Number of pieces, thickness, diameter, length and brand
7. List of heat numbers in the shipment

Certification Statement

It is hereby certified that the material furnished as listed was manufactured in accordance with and meets the requirements of AASHTO M167 (M167M) as modified by the Iowa Department of Transportation Specifications.

Two additional copies of these documents shall be forwarded to the Office of Materials, Iowa Department of Transportation, Ames, Iowa.

If there is evidence of misbranding as determined by random sampling and detection of inadequate tensile strength, yield strength, elongation, improper chemical composition, inadequate or improper coating, deficient thickness, or improper fabrication, the material will be rejected and approval for further use will be withdrawn until subsequently re-approved. Samples for testing of any material offered for use may be taken at any time deemed desirable by the engineer.

Prior to incorporation in a project, the plate markings, which shall be in accordance with AASHTO M167 (M167M), shall be checked for compliance. Each plate shall be identified as follows:

1. Name of plate fabricator
2. Identification showing heat number and coating lot number
3. Specified zinc-coated plate thickness
4. Specified coating mass - **NOTE:** Coating shall adhere to the base metal, so that no peeling or flaking occurs during handling and/or shipping.
5. Identification symbols showing sheet manufacturer and heat number or lot number
6. AASHTO M167 (M167M) Designation

The base metal shall conform to chemical requirements of AASHTO M167 (M167M). The mechanical requirements for flat plate shall be:

Type	Corrugation	Yield Point (Minimum)	Tensile (Minimum)	Elongation in 2 in. (Minimum)
33	6" x 2"	28 ksi	42 ksi	25%
38	6" x 2"	33 ksi	45 ksi	25%
33 & 38	15" x 5.5"	40 ksi	55 ksi	25%
	16" x 6"	40 ksi	55 ksi	25%

MONITOR SAMPLING & TESTING

The District Materials Office shall secure monitor samples periodically. The frequency may be based on the quantity of material furnished for use in each District. A minimum of one sample should be obtained annually for each fabricator with an approved certification and guarantee. The sample size shall be one (1) foot by one (1) foot square obtained from an end section. One set per size of bolts, nuts, and washers shall be obtained at random for testing.