Standard Specification for

Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains

AASHTO Designation: M 36-16 (2020)[1]

Technical Subcommittee: 4b, Flexible and Metallic Pipe

Release: Group 2 (June)

ASTM Designation: A760/A760M-01a

AASHTO

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1. SCOPE

1.1. This specification covers corrugated steel pipe (CSP) intended for use for storm water drainage, underdrains, the construction of culverts, and similar uses. Pipe covered by this specification is not normally used for the conveyance of sanitary or industrial wastes. The steel sheet used in fabrication of the pipe has a protective metallic coating of zinc (galvanizing), aluminum Type 2, 55 percent aluminum-zinc alloy, zinc-5 percent aluminum-mischmetal alloy, or aluminum Type 1.

1.2. The several different metallic coatings may not provide equal protection of the base metal against corrosion or abrasion, or both, in all environments. Some environments may be so severe that none of the metallic coatings included in this specification will provide adequate protection. Additional protection for CSP can be provided by use of coatings applied after fabrication of the pipe as described in M 190, or by use of polymer-precoated CSP as described in M 245.

1.3. This specification does not include requirements for bedding, backfill, or the relationship between earth cover load and sheet thickness of the pipe. Experience has shown that the successful performance of this product depends on the proper selection of sheet thickness, type of bedding and backfill, controlled manufacture in the plant, and care in the installation. The installation procedure is described in *AASHTO LRFD Bridge Construction Specifications*, Section 26.

2. REFERENCED DOCUMENTS

2.1. *AASHTO Standards*:

- M 190, Asphalt-Coated Corrugated Metal Culvert Pipe and Pipe-Arches
- M 218, Steel Sheet, Zinc-Coated (Galvanized), for Corrugated Steel Pipe
- M 232M/M 232, Zinc Coating (Hot-Dip) on Iron and Steel Hardware
- M 245, Corrugated Steel Pipe, Polymer-Precoated, for Sewers and Drains
- M 274, Steel Sheet, Aluminum-Coated (Type 2), for Corrugated Steel Pipe
- M 289, Aluminum-Zinc Alloy Coated Sheet Steel for Corrugated Steel Pipe
- T 65M/T 65, Mass [Weight] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings
- T 213M/T 213, Mass [Weight] of Coating on Aluminum-Coated Iron or Steel Articles
- T 241, Helical Continuously Welded Seam Corrugated Steel Pipe

- T 249, Helical Lock Seam Corrugated Pipe
- *AASHTO LRFD Bridge Construction Specifications*
- *AASHTO LRFD Bridge Design Specifications*

2.2. *ASTM Standards*:

- A563M, Standard Specification for Carbon and Alloy Steel Nuts (Metric)
- A780/A780M, Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
- A796/A796M, Standard Practice for Structural Design of Corrugated Steel Pipe, Pipe-Arches, and Arches for Storm and Sanitary Sewers and Other Buried Applications
- A929/A929M, Standard Specification for Steel Sheet, Metallic-Coated by the Hot-Dip Process for Corrugated Steel Pipe
- B633, Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel
- B695, Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel
- C443M, Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets (Metric)
- D1056, Standard Specification for Flexible Cellular Materials—Sponge or Expanded Rubber
- F568M, Standard Specification for Carbon and Alloy Steel Externally Threaded Metric Fasteners (withdrawn 2012; no replacement)

2.3. *AISI Standard*:

- S100, North American Specification for the Design of Cold-Formed Steel Structural Members

3. TERMINOLOGY

3.1. *Description of Terms Specific to This Standard*:

3.1.1. *fabricator*—the producer of the pipe.

3.1.2. *manufacturer*—the producer of the sheet.

3.1.3. *minimized coating structure*—a coating characterized by a finer metallurgical coating structure obtained by a treatment designed to restrict the formation of the normal coarse-grain structure formed during solidification of the Zn-5 Al-MM alloy coating.

3.1.4. *purchaser*—the purchaser of the finished product.

3.1.5. *regular coating structure*—the normal coating structure resulting from unrestricted grain growth during normal solidification of the Zn-5 A1-MM alloy coating.

3.2. *Abbreviations*:

3.2.1. *55 Al-Zn*—55 percent aluminum-zinc,

3.2.2. *MM*—mischmetal,

3.2.3. *Zn-5 Al-MM*—zinc-5 percent aluminum-mischmetal,

3.2.4. *AlT2*—aluminum-coated Type 2, and

3.2.5. *AlT1*—aluminum-coated Type 1.