



Designation: A1057/A1057M – 25

Standard Specification for Steel, Structural Tubing, Cold Formed, Welded, Carbon, Zinc-Coated (Galvanized) by the Hot-Dip Process¹

This standard is issued under the fixed designation A1057/A1057M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope*

1.1 This specification covers cold-formed electric resistance or electric induction welded carbon structural steel tubing in round, square, rectangular, or special shapes that are zinc-coated (galvanized) on the exterior surface only, in continuous coating lines by the hot-dip process. The tubing can be manufactured from hot-rolled or cold-rolled steel. This product is intended for applications where corrosion resistance and mechanical properties are required. This product is available in several zinc coating weights [masses], strengths, and chemical compositions.

1.2 *Units*—The values stated in either SI units or inch-pound units shall be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system is to be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

- A90/A90M Test Method for Weight [Mass] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings
- A902 Terminology Relating to Metallic Coated Steel Products
- A370 Test Methods and Definitions for Mechanical Testing of Steel Products

¹ This specification is under the jurisdiction of ASTM Committee A05 on Metallic-Coated Iron and Steel Products and is the direct responsibility of Subcommittee A05.11 on Sheet Specifications.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at www.astm.org/contact. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

A500/A500M Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

A924/A924M Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

3. Terminology

3.1 *Definitions*—See Terminology A902 for definitions of general terminology relating to metallic-coated tube steel products.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *acrylic*—polymer based on resins prepared from a combination of acrylic and methacrylic esters, acrylic and methacrylic acids, and styrene.

3.2.1.1 *Discussion*—The polymers contain functional groups such as amide, hydroxyl, or carboxyl and form thermosetting systems on baking by cross linking with them, or with amino or epoxy resins.

3.2.2 *de-dimpled*—The condition of the end of tubing after removal of the protrusion or deformation created by the punch cut operation.

3.2.2.1 *Discussion*—The dimple is a protrusion that is displaced from the inside diameter and is unrelated to a shear burr.

3.2.3 *structural tubing*—tubing tension tested with reported test results.

4. Dimensions

4.1 The product is available in the following sizes:

Product	Wall Thickness, max	Exterior Dimension, max
Round Tubing	0.250 in. [6.5 mm]	diameter 5.0 in. [125 mm]
Square, Rectangular, or Special Shapes	0.250 in. [6.5 mm]	periphery 16.0 in. [405 mm]

5. Classification

5.1 The tube material is available in the following designations:

5.1.1 Structural tubing steel STS 38, 48, 58, and 68.

5.1.2 The material is available as zinc-coated in several coating weights [masses] as shown in Table 1.

*A Summary of Changes section appears at the end of this standard