



Designation: A653/A653M – 20

Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy- Coated (Galvannealed) by the Hot-Dip Process¹

This standard is issued under the fixed designation A653/A653M; 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 reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope*

1.1 This specification covers steel sheet, zinc-coated (galvanized) or zinc-iron alloy-coated (galvannealed) by the hot-dip process in coils and cut lengths.

1.2 The product is produced in various zinc or zinc-iron alloy-coating weights [masses] or coating designations as shown in [Table 1](#) and in [Table S2.1](#).

1.3 Product furnished under this specification shall conform to the applicable requirements of the latest issue of Specification [A924/A924M](#), unless otherwise provided herein.

1.4 The product is available in a number of designations, grades, and classes in four general categories that are designed to be compatible with different application requirements.

1.4.1 Steels with mandatory chemical requirements and typical mechanical properties.

1.4.2 Steels with mandatory chemical requirements and mandatory mechanical properties.

1.4.3 Steels with mandatory chemical requirements and mandatory mechanical properties that are achieved through solid-solution or bake hardening.

1.5 This specification is applicable to orders in either inch-pound units (as A653) or SI units (as A653M). Values in inch-pound and SI units are not necessarily equivalent. Within the text, SI units are shown in brackets. Each system shall be used independently of the other.

1.6 The text of this specification references notes and footnotes that provide explanatory material. These notes and footnotes, excluding those in tables and figures, shall not be considered as requirements of this specification.

1.7 Unless the order specifies the “M” designation (SI units), the product shall be furnished to inch-pound units.

1.8 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the*

responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.

1.9 *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
[A370](#) Test Methods and Definitions for Mechanical Testing of Steel Products

[A568/A568M](#) Specification for Steel, Sheet, Carbon, Structural, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for

[A902](#) Terminology Relating to Metallic Coated Steel Products

[A924/A924M](#) Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process

[B6](#) Specification for Zinc

[B852](#) Specification for Continuous Galvanizing Grade (CGG) Zinc Alloys for Hot-Dip Galvanizing of Sheet Steel

[D7396](#) Guide for Preparation of New, Continuous Zinc-Coated (Galvanized) Steel Surfaces for Painting

[E517](#) Test Method for Plastic Strain Ratio r for Sheet Metal

[E646](#) Test Method for Tensile Strain-Hardening Exponents (n -Values) of Metallic Sheet Materials

2.2 ISO Standards:³

[ISO 3575](#) Continuous Hot-Dip Zinc-Coated Carbon Steel of Commercial and Drawing Qualities

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.

Current edition approved May 1, 2020. Published May 2020. Originally approved in 1994. Last previous edition approved in 2019 as A653/A653M – 19a. DOI: 10.1520/A0653_A0653M-20.

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

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.