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AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Specification for Steel Sheet, Zinc-5 % Aluminum Alloy-Coated by the Hot-Dip Process¹

This standard is issued under the fixed designation A 875/A 875M; 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, in coils and cut lengths, metallic-coated by the hot-dip process, with zinc-5 % aluminum alloy coating. The Zn-5Al alloy coating also contains small amounts of elements other than zinc and aluminum that are intended to improve processing and the characteristics of the coated product.

1.2 The coating is produced as two types: zinc-5 % aluminum-mischmetal alloy (Type I) and zinc-5 % aluminum-0.1 % magnesium alloy (Type II), and in two coating structures (classes). The coated sheet is produced in several coating designations (coating weight [mass]).

1.3 The material is intended for applications requiring corrosion resistance, formability, and paintability.

1.4 The steel sheet is produced in a number of designations, types, grades, and classes designed to be compatible with differing application requirements.

1.5 Coated sheet material furnished under this specification shall conform to the applicable requirements of the latest issue of Specification A 924/A 924M, unless otherwise provided herein.

1.6 This specification is applicable to orders in either inch-pound units (as A 875) or metric (SI) units [as A 875M]. Values in inch-pound and SI units are to be regarded separately as standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents. Therefore, each system shall be used independently of the other.

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

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

1.9 *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 appro-*

priate safety and health practices and determine the applicability of regulatory limitations prior to use.

2. Referenced Documents

2.1 ASTM Standards:

A 90/A 90M Test Method for Weight [Mass] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings²

A 902 Terminology Relating to Metallic Coated Steel Products²

A 924/A 924M Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process²

B 750 Specification for Zinc-5 % Aluminum-Mischmetal Alloy (UNS Z38510) in Ingot Form for Hot-Dip Coatings³

E 47 Test Methods for Chemical Analysis of Zinc Die-Casting Alloys⁴

E 517 Test Method for Plastic Strain Ratio r for Sheet Metal⁵

E 646 Test Method for Tensile Strain-Hardening Exponents (n -Values) of Metallic Sheet Materials⁵

E 1277 Test Method for Chemical Analysis of Zinc-5 Aluminum-Mischmetal Alloys by ICP Emission Spectrometry⁶

2.2 Other Document:

GF-1 Standard Practice for Determination of Cerium and Lanthanum Compositions in Galfan Alloy (5 % Al-0.4 % La-0.4 % Ce-Bal SHG ZN)⁷

3. Terminology

3.1 *Definitions*—See Terminology A 902 for definitions of general terminology relating to metallic-coated steel products.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *minimized coating structure, n* —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-5Al alloy coating.

3.2.2 *regular coating structure, n* —the normal coating

² Annual Book of ASTM Standards, Vol 01.06.

³ Annual Book of ASTM Standards, Vol 02.04.

⁴ Discontinued 1997; see Annual Book of ASTM Standards, Vol 03.05.

⁵ Annual Book of ASTM Standards, Vol 03.01.

⁶ Annual Book of ASTM Standards, Vol 03.06.

⁷ Available from International Lead Zinc Research Organization, Inc., 2525 Meridian Parkway, P.O. Box 12036, Research Triangle Park, NC 27709-2036.

¹ This specification is under the jurisdiction of ASTM Committee A-5 on Metallic-Coated Iron and Steel Products and is the direct responsibility of Subcommittee A05.11 on Sheet Specifications.

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