



Standard Specification for Zinc-5 % Aluminum-Mischmetal Alloy-Coated Steel Overhead Ground Wire Strand¹

This standard is issued under the fixed designation A 925; 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 high-strength, extra-high-strength, and utilities grades of concentric lay steel wire strand composed of three wires or seven wires with Class A, Class B, or Class C zinc-5 % aluminum-mischmetal (Zn-5 Al-MM) alloy coatings specifically intended for use as overhead ground wires or static wires for electric power transmission lines.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in brackets are for information only.

2. Referenced Documents

2.1 ASTM Standards:²

A 90/A 90M Test Method for Weight [Mass] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings
A 902 Terminology Relating to Metallic-Coated Steel Products

B 750 Specification for Zinc-5 % Aluminum-Mischmetal Alloy (UNS Z 38510) in Ingot Form for Hot-Dip Coatings
E 27 Method for Spectrographic Analysis of Zinc and Zinc Alloys by the Solution-Residue Technique

E 47 Test Method for Chemical Analysis of Zinc Die-Casting Alloys

2.2 Other Standard:³

GF-1 Standard Practice for Determination of Cerium and Lanthanum Compositions in Galfan Alloy (5-Al-0.04 % La-0.04 % Ce-Bal SHG Zn)

3. Terminology

3.1 Definitions—For definitions of terms used in this specification refer to Terminology A 902.

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 A05.12 on Wire Specifications.

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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 International Lead Zinc Research Organization, 292 Madison Ave., New York, NY 10017.

4. Ordering Information

4.1 Orders for strand purchased under this specification shall include the following information:

4.1.1 Quantity of each size,

4.1.2 Size and grade of strand (Table 1),

4.1.3 Class of Zn-5 Al-MM alloy coating (Section 11 and Table 2), and

4.1.4 ASTM designation and year of issue.

5. Materials and Manufacture

5.1 *Base Metal*—The base metal shall be steel made by any commercially accepted steel making process and of such quality and purity that, when drawn to the size of wire specified and coated with Zn-5 Al-MM alloy, the finished strand and the individual wires shall be of uniform quality and have the properties and characteristics as prescribed in this specification.

5.2 *Coating Bath Analysis*—The bath metal used in continuous hot-dip Zn-5 Al-MM alloy coating shall meet the chemical composition limits specified in Specification B 750.

5.2.1 For a two-step coating operation where the first coating is zinc (hot-dip galvanized or electrogalvanized) the final bath may have an aluminum content of up to 7.2 %, to prevent depletion of the aluminum content of the bath.

5.2.2 *Method of Analysis*—The determination of chemical composition shall be made in accordance with suitable chemical (see Test Method E 47), spectrochemical (see Method E 27), or other methods. In case of dispute, the results secured by Test Method E 47 shall be the basis of acceptance.

5.2.3 A standard practice of X-ray fluorescence spectrometry for determination of cerium and lanthanum in a Zn-5 Al-MM alloy has been established by the International Lead Zinc Research Organization (Standard Practice GF-1).

6. Stranding

6.1 The strand shall have a left lay with a uniform pitch of not more than 16 times the nominal diameter of the strand. A left lay is defined as a counter-clockwise twist away from the observer. Stranding shall be sufficiently close to ensure no significant reduction in diameter when stressed to 10 % of the minimum breaking strength.

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