



Designation: A 925 – 98

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

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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 parentheses are for information only.

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

B 750 Specification for Zinc-5 % Aluminum-Mischmetal Alloy (UNS Z 38510) in Ingot Form for Hot-Dip Coatings³

E 27 Method for Spectrographic Analysis of Zinc and Zinc Alloys by the Solution-Residue Technique⁴

E 47 Test Method for Chemical Analysis of Zinc Die-Casting Alloys⁵

2.2 Other Standard:

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)⁶

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 Annual Book of ASTM Standards, Vol 01.06.

³ Annual Book of ASTM Standards, Vol 02.04.

⁴ Discontinued; see 1986 Annual Book of ASTM Standards, Vol 03.06.

⁵ Annual Book of ASTM Standards, Vol 03.05.

⁶ 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 12 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 the open-hearth, basic-oxygen, or electric-furnace 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. Joints

6.1 There shall be no joints of any kind made in the finished wire entering into the construction of the strand.

6.2 Electric-welded butt joints made prior to the start of cold drawing of the wire are permitted; however, no electric-welded butt joints of the wire shall be made during the cold drawing application.