



Designation: A 459 – 97

Standard Specification for Zinc-Coated Flat Steel Armoring Tape¹

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1. Scope

1.1 This specification covers requirements for zinc-coated flat steel tape in coils for use as interlocking armor and flat armor for electrical cables. The zinc-coated tape is produced with three classes of zinc coating weight.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values in parentheses are provided 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 6 Specification for Zinc³

3. Terminology

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

4. Ordering Information

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

- 4.1.1 Quantity of each size,
- 4.1.2 Width and thickness (see 13),
- 4.1.3 Copper-bearing steel base metal, when required (see 5),
- 4.1.4 Class of coating (see 11), and
- 4.1.5 Packaging requirements (see 17).

5. Materials and Manufacture

5.1 The base metal shall be steel made by the open-hearth, basic-oxygen, or electric-furnace process and of such quality that when processed and coated with zinc, the finished tape shall have the properties and characteristics prescribed in this specification.

5.2 The uncoated tape shall have a mill finish and may have either a mill or slit edge. If the uncoated tape is manufactured by slitting or shearing, slitting burrs shall be kept to a minimum consistent with good commercial practice.

5.3 The zinc shall be applied by either the hot-dip or the electrogalvanizing process by a final operation so that all surfaces including edges are coated.

5.4 The slab zinc when used shall conform to any grade of zinc described in Specification B 6.

6. Joints

6.1 The zinc-coated tape shall be furnished in coils of one continuous length, with not more than an average of one weld/50 lb (23 kg). Only welds made prior to the zinc coating operation shall be permitted and the area of such welds shall conform to the standard tolerance for thickness. The welds shall be smooth and free of sharp projections.

7. Sampling

7.1 During the visual inspection specified in Section 16, the inspector shall select at random, 1 sample coil from every 10 coils in the first 100 coils of the lot and 1 sample coil for every additional 35 coils, but not less than 3 coils from the entire lot.

7.2 From each coil of zinc-coated tape thus selected, a sample of suitable length shall be taken for the weight of coating and the mechanical tests as specified in Sections 8 to 12.

7.3 Any sample that indicates the presence of a weld shall be discarded and another sample shall be taken from the coil for testing.

8. Tensile Strength

8.1 The zinc-coated tape shall have a tensile strength of 70 ksi (483 MPa), maximum. The tensile strength shall be determined on longitudinal specimens consisting of the full width of the tape when practical, or a straight specimen cut or sheared from the center of the tape.

9. Elongation

9.1 The zinc-coated tape shall have an elongation of not less than 10 % in 10 in. (254 mm). The elongation shall be determined as the permanent increase in length, after failure of a marked section of the tape specimen originally 10 in. in length.

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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² *Annual Book of ASTM Standards*, Vol 01.06.

³ *Annual Book of ASTM Standards*, Vol 02.04.