



Standard Specification for Zinc Alloys (CGG) for Continuous Hot-Dip Galvanizing of Sheet Steel¹

This standard is issued under the fixed designation B 852; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope *

1.1 This specification covers grades of zinc alloys, commonly known as Continuous Galvanizing Grade (CGG) alloys that contain aluminum, or aluminum and lead and that are used in continuous hot-dip galvanizing of steel sheet. The compositions for CGG grades made from primary zinc are shown in Table 1. Exceptions for grades made from secondary zinc are found in footnote C.

1.2 Other alloy compositions not included in B 852, and as may be agreed upon between the producer and the user, may be used for continuous galvanizing.

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

1.4 *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 become familiar with all hazards including those identified in the appropriate Material Data Sheet for this product/material as provided by the manufacturer, to establish appropriate safety and health practices, and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

B 899 Terminology Relating to Non-ferrous Metals and Alloys²

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications³

E 88 Practice for Sampling Nonferrous Metals and Alloys in Cast Form for Determination of Chemical Composition⁴

E 527 Practice for Numbering Metals and Alloys (UNS)⁵

¹ This specification is under the jurisdiction of ASTM Committee B02 on Nonferrous Metals and Alloys and is the direct responsibility of Subcommittee B02.04 on Zinc and Cadmium.

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² Annual Book of ASTM Standards, Vol 02.04.

³ Annual Book of ASTM Standards, Vol 14.02.

⁴ Annual Book of ASTM Standards, Vol 03.05.

⁵ Annual Book of ASTM Standards, Vol 01.01.

TABLE 1 Chemical Requirements

Grade ^A (UNS)	Composition, %			
	Nominal		Range ^B	
	Aluminum	Lead	Aluminum	Lead ^C
Z80310	0.25	...	0.22 to 0.28	0.007 max
Z80411	0.35	...	0.31 to 0.39	0.007 max
Z80511	0.45	...	0.40 to 0.50	0.007 max
Z80531	0.45	0.02	0.40 to 0.50	0.01 to 0.03
Z80610	0.55	...	0.49 to 0.61	0.007 max
Z80710	0.65	...	0.58 to 0.72	0.007 max
Z80810	0.75	...	0.67 to 0.83	0.007 max
Z80910	1.00	...	0.90 to 1.10	0.007 max
Impurities, %:	Iron ^C		0.0075 max	
	Cadmium		0.01 max	
	Copper		0.01 max	
	Other Elements		total of 0.01 max	
Zinc:			balance by difference	

^A UNS numbers in conformance with Practice E 527.

^B For purposes of determining conformance with this specification, an observed value obtained from analysis shall be rounded to the nearest unit in the last right-hand place of figures used in expressing the limiting value, in accordance with the rounding method of Practice E 29.

^C Lead and Iron levels of 0.01 % max and 0.01 % max respectively are allowed for CGG alloys produced from secondary zinc.

E 536 Test Methods for Chemical Analysis of Zinc and Zinc Alloys⁶

E 634 Standard Practice for Sampling of Zinc and Zinc Alloys for Optical Emission Spectrochemical Analysis⁶

3. Terminology

3.1 Terms shall be defined in accordance with Terminology B 899.

4. Ordering Information

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

4.1.1 Number of ASTM standard, including year of issue,

4.1.2 Quantity (weight),

4.1.3 Name of material (CGG),

4.1.4 Size and shape (Section 7), and

4.1.5 Grade (see Table 1).

5. Materials and Manufacture

5.1 The producer shall use care that each shipment of CGG

⁶ Annual Book of ASTM Standards, Vol 03.06.

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