



Designation: B 37 – 03

Standard Specification for Aluminum for Use in Iron and Steel Manufacture¹

This standard is issued under the fixed designation B 37; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope*

1.1 This specification covers aluminum and aluminum alloys in the form of ingots, bars, rods, cones, nuggets or shot, designated as shown in Table 1, for use in the manufacture of iron and steel.

1.2 *Units*—The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are mathematical conversions to SI units, which are provided for information only and are not considered standard.

1.3 *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 appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

B 660 Practices for Packaging/Packing of Aluminum and Magnesium Products²

B 881 Terminology Relating to Aluminum and Magnesium-Alloy Products²

D 3951 Practice for Commercial Packaging³

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications⁴

E 34 Test Methods for Chemical Analysis of Aluminum and Aluminum-Base Alloys⁵

E 55 Practice for Sampling Wrought Nonferrous Metals and Alloys for Determination of Chemical Composition⁵

E 88 Practice for Sampling Nonferrous Metals and Alloys in Cast Form for Determination of Chemical Composition⁵

E 607 Test Method for Atomic Emission Spectrometric Analysis Aluminum Alloys by the Point-to-Plane Technique, Nitrogen Atmosphere⁵

E 716 Practices for Sampling Aluminum and Aluminum Alloys for Spectrochemical Analysis⁵

E 1251 Test Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Argon Atmosphere, Point-to-Plane, Unipolar Self Initiating Capacitor Discharge⁵

3. Terminology

3.1 *Definitions*—Refer to Terminology B 881 for definitions of product terms used in this specification.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *bar*—a form of aluminum deoxidizing product with a rectangular cross section, similar to the appearance of a brick.

3.2.2 *cone*—a form of aluminum deoxidizing product with a round flat base and a pointed end.

3.2.3 *deox*—a common or commercial term used in place of aluminum deoxidizing product.

3.2.4 *nugget*—a form of aluminum deoxidizing product with a non-uniform (lump) shape.

3.2.5 *shot*—a form of aluminum deoxidizing product with a spheroid appearance of a pellet.

TABLE 1 Chemical Limits

NOTE 1—Analysis shall be made only for copper, zinc, magnesium, silicon, and iron unless the determination of additional elements is required by the contract or order, or the presence of other elements in substantial concentration is indicated during the course of the analysis. In the latter case, the amount of these other elements shall be determined, reported, and the total of copper, zinc, magnesium, silicon, iron, and “other elements” shall not exceed the specified amount prescribed in the last column of the table. Unless otherwise specified in the contract or order, 0.2 % or more of any “other element” shall constitute a “substantial concentration” and require that element to be reported.

NOTE 2—The following applies to all specified limits in this table: For purposes of determining conformance to these limits, an observed value or a calculated value obtained from analysis shall be rounded to the nearest unit in the last right-hand place of figures used in expressing the specified limit in accordance with the rounding-off method of Practice E 29.

Grade	Composition, %				
	Aluminum, min, by Difference	Copper, max	Zinc, max	Magnesium, max	Total of All Impurities, max
990A	99.0	0.2	0.2	0.2	1.0
980A	98.0	0.2	0.2	0.5	2.0
950A	95.0	1.5	1.5	1.0	5.0
920A	92.0	4.0	1.5	1.0	8.0
900A	90.0	4.5	3.0	2.0	10.0
850A	85.0	5.0	5.5	2.5	15.0

¹ This specification is under the jurisdiction of ASTM Committee B07 on Light Metals and Alloys and is the direct responsibility of Subcommittee B07.01 on Aluminum Alloy Ingots and Castings.

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² *Annual Book of ASTM Standards*, Vol 02.02.

³ *Annual Book of ASTM Standards*, Vol 15.09.

⁴ *Annual Book of ASTM Standards*, Vol 14.02.

⁵ *Annual Book of ASTM Standards*, Vol 03.05.

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