Designation: B 37 – 96 (Reapproved 2001)

Standard Specification for Aluminum for Use in Iron and Steel Manufacture[1]

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 reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

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

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:*

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specification[2]

E 34 Test Methods for Chemical Analysis of Aluminum and Aluminum-Base Alloys[3]

E 55 Practice for Sampling Wrought Nonferrous Metals and Alloys for Determination of Chemical Composition[3]

E 101 Test Method for Spectrographic Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique[4]

E 227 Test Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique[3]

E 607 Test Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique, Nitrogen Atmosphere[5]

E 716 Practices for Sampling Aluminum and Aluminum Alloys for Spectrochemical Analysis[5]

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 Discharge[5]

3. Ordering Information

3.1 Orders for material under this specification shall include the following:

3.1.1 This specification designation (which includes the number, the year, and the revision letter, if applicable),

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 and the total of copper, zinc, magnesium, silicon and 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 % of any "other element" shall constitute a "substantial concentration."

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

3.1.2 Grade of material (see Table 1),

3.1.3 Form of material (ingot, rod or shot),

3.1.4 Dimensional limitations for material,

3.1.5 The quantity in either pieces or pounds,

3.2 Additionally, orders for material to this specification shall include the following information when required by the purchaser:

3.2.1 Special packaging (see Section 6),

3.2.2 If inspection is required at manufacturers plant (see Section 7).

4. Quality

4.1 The material covered by this specification shall be commercially uniform in quality, in freedom from dross, slag, hollow shells, and other harmful contamination. Hollow shells shall not exceed 10 % by count in a minimum sample of 340 shot. The surface of material in shot form shall be free from a heavy oxidized coating.

4.2 The density of shot shall not be less than 90 lb/ft^3.

[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.

Current edition approved Aug. 10, 1996. Published September 1996. Originally published as B 37 – 20. Last previous edition B 37 – 92.

[2] *Annual Book of ASTM Standards*, Vol 14.02.

[3] *Annual Book of ASTM Standards*, Vol 03.05.

[4] Discontinued. See *1995 Annual Book of ASTM Standards*, Vol 03.05.

[5] *Annual Book of ASTM Standards*, Vol 03.06.