



Designation: B 221 – 00

Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes¹

This standard is issued under the fixed designation B 221; 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 specification² covers aluminum and aluminum-alloy extruded bar, rod, wire, profile, and tube in the aluminum alloys (Note 1) and tempers shown in Table 2.

NOTE 1—Throughout this specification, the use of the term *alloy* in the general sense includes aluminum as well as aluminum alloy.

NOTE 2—For rolled or cold-finished bar and rod refer to Specification B 211, for drawn tube to Specification B 210, for structural pipe and tube to Specification B 429, and for seamless pipe and tube to Specification B 241/B 241M.

1.2 Alloy and temper designations are in accordance with ANSI H35.1. The equivalent Unified Numbering System alloy designations are those of Table 1 preceded by A9; for example, A91100 for Aluminum 1100 in accordance with Practice E 527.

1.3 For acceptance criteria for inclusion of new aluminum and aluminum alloys in this specification, see Annex A2.

1.4 A complete metric companion to B 221 has been developed—B 221M; therefore, no metric equivalents are presented in this specification.

2. Referenced Documents

2.1 The following documents of the issue in effect on the date of material purchase, unless otherwise noted, form a part of this specification to the extent referenced herein:

2.2 ASTM Standards:

B 557 Test Methods of Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products³

B 594 Practice for Ultrasonic Inspection of Aluminum-Alloy Wrought Products for Aerospace Applications³

B 597 Practice for Heat Treatment of Aluminum Alloys³

B 660 Practices for Packaging/Packing of Aluminum and Magnesium Products³

B 666/B 666M Practice for Identification Marking of Aluminum Products³

B 807 Practice for Extrusion Press Solution Heat Treatment of Aluminum Alloys³

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 227 Test Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique⁵

E 527 Practice for Numbering Metals and Alloys (UNS)⁶

E 607 Test Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique, Nitrogen Atmosphere⁷

E 716 Practices for Sampling Aluminum and Aluminum Alloys for Spectrochemical Analysis⁷

E 1004 Test Method for Electromagnetic (Eddy-Current) Measurements of Electrical Conductivity⁸

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 Discharge⁷

G 47 Test Method for Determining Susceptibility to Stress-Corrosion Cracking of High-Strength Aluminum Alloy Products⁹

Method of Test for Exfoliation Corrosion Susceptibility in 7xxx Series Copper-Containing Aluminum Alloys (EXCO Test) (G 34-72)¹⁰

2.3 ANSI Standards:

H35.1 Alloy and Temper Designation Systems for Aluminum³

¹ This specification is under the jurisdiction of ASTM Committee B07 on Light Metals and Alloys and is the direct responsibility of Subcommittee B07.03 on Aluminum Alloy Wrought Products.

Current edition approved May 10, 2000. Published August 2000. Originally published as B 221–47T. Last previous edition B 221–96.

² For ASME Boiler and Pressure Vessel Code applications see related Specification SB-221 in Section 11 of this Code.

³ *Annual Book of ASTM Standards*, Vol 02.02.

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

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

⁶ *Annual Book of ASTM Standards*, Vol 01.01.

⁷ *Annual Book of ASTM Standards*, Vol 03.06.

⁸ *Annual Book of ASTM Standards*, Vol 03.03.

⁹ *Annual Book of ASTM Standards*, Vol 03.02.

¹⁰ The applicable edition in the use of this specification is G 34–72, which is available in the gray pages of the *Annual Book of ASTM Standards*, Vol 02.02.

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