



Designation: B 429 – 00

Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube¹

This standard is issued under the fixed designation B 429; 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 aluminum-alloy pipe and extruded tube in selected alloys and tempers and in standard sizes as shown in the tables in Appendix X1. This pipe and tube is intended for use in structural applications such as highway and bridge rails, chain-link fence posts, handrails, sign structures, awning supports, lighting brackets, etc. Structural pipe and tube is not intended for fluid-carrying applications involving pressure.

NOTE 1—For drawn seamless tube used in pressure applications see Specification B 210, and for seamless pipe and seamless extruded tube used in pressure applications see Specification B 241.

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, A96061 for alloy 6061 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 The values stated in inch-pound units are the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 The following documents of the date of issue in effect on date of material procurement 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 Products²

B 597 Practice for Heat Treatment of Aluminum Alloys²

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

B 666/B 666M Practice for Identification Marking of Aluminum Products²

B 807 Practice for Extrusion Press Solution Heat Treatment of Aluminum Alloys²

E 29 Practice for Using Significant Digits in Test Data to

Determine Conformance with Specifications³

E 34 Test Methods for Chemical Analysis of Aluminum and Aluminum Base Alloys⁴

E 55 Practice for Sampling Wrought Nonferrous Metals and Alloys for Determination of Chemical Composition⁴

E 227 Test Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique⁴

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

E 607 Test Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique, Nitrogen Atmosphere⁶

E 716 Practices for Sampling Aluminum and Aluminum Alloys for Spectrochemical Analysis⁶

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 Discharge⁶

2.3 ANSI Standards:

H35.1 Alloy and Temper Designations Systems for Aluminum²

H35.2 Dimensional Tolerance for Aluminum Mill Products²

2.4 Military Standards:

MIL-STD-129, Marking for Shipment and Storage⁷

2.5 Federal Standards:

Fed. Std. No. 123 Marking for Shipment (Civil Agencies)⁷

3. Terminology

3.1 Definitions:

3.1.1 *extruded structural pipe*—extruded structural tube having certain standardized sizes of outside diameter and wall thickness commonly designated by “Nominal Pipe Sizes” and American National Standards Institute (ANSI) Schedule Numbers.

3.1.2 *extruded structural tube*—a hollow product having a round cross section and a uniform wall thickness, brought to

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

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.

⁶ *Annual Book of ASTM Standards*, Vol 03.06.

⁷ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

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