



Designation: E2375 – 16

Standard Practice for Ultrasonic Testing of Wrought Products¹

This standard is issued under the fixed designation E2375; 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 U.S. Department of Defense.

1. Scope

1.1 *Purpose*—This practice establishes the minimum requirements for ultrasonic examination of wrought products.

NOTE 1—This standard was adopted to replace MIL-STD-2154, 30 Sept. 1982. This standard is intended to be used for the same applications as the document which it replaced. Users should carefully review its requirements when considering its use for new, or different applications, or both.

1.2 *Application*—This practice is applicable for examination of materials such as, wrought metals and wrought metal products having a thickness or cross section equal to 0.250 in. (6.35 mm) or greater.

1.2.1 *Wrought Aluminum Alloy Products*—Examination shall be in accordance with Practice B594.

1.3 *Acceptance Class*—When examination is performed in accordance with this practice, engineering drawings, specifications, or other applicable documents shall indicate the acceptance criteria. Five ultrasonic acceptance classes are defined in Table 1. One or more of these classes may be used to establish the acceptance criteria or additional or alternate criteria may be specified.

1.4 *Order of Precedence*—Contractual requirements and authorized direction from the cognizant engineering organization may add to or modify the requirements of this practice. Otherwise, in the event of conflict between the text of this practice and the references cited herein, the text of this practice takes precedence. Nothing in this practice, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

1.5 *Measurement Values*—The values stated in inch-pounds are to be regarded as standard. The metric equivalents are in parentheses.

1.6 *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 appro-*

priate safety and health practices and determine the applicability of regulatory limitations prior to use.

2. Referenced Documents

2.1 The following documents form a part of this practice to the extent specified herein:

2.2 *ASTM Standards*:²

B107/B107M Specification for Magnesium-Alloy Extruded Bars, Rods, Profiles, Tubes, and Wire

B221 Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes

B241/B241M Specification for Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Extruded Tube

B594 Practice for Ultrasonic Inspection of Aluminum-Alloy Wrought Products

E127 Practice for Fabrication and Control of Aluminum Alloy Ultrasonic Standard Reference Blocks

E164 Practice for Contact Ultrasonic Testing of Weldments

E213 Practice for Ultrasonic Testing of Metal Pipe and Tubing

E317 Practice for Evaluating Performance Characteristics of Ultrasonic Pulse-Echo Testing Instruments and Systems without the Use of Electronic Measurement Instruments

E428 Practice for Fabrication and Control of Metal, Other than Aluminum, Reference Blocks Used in Ultrasonic Testing

E543 Specification for Agencies Performing Nondestructive Testing

E1065 Practice for Evaluating Characteristics of Ultrasonic Search Units

E1158 Guide for Material Selection and Fabrication of Reference Blocks for the Pulsed Longitudinal Wave Ultrasonic Testing of Metal and Metal Alloy Production Material

E1316 Terminology for Nondestructive Examinations

¹ This practice is under the jurisdiction of ASTM Committee E07 on Nondestructive Testing and is the direct responsibility of Subcommittee E07.06 on Ultrasonic Method.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.