



Designation: E1817-03 ~~Designation: E 1817 - 08~~

Standard Practice for Controlling Quality of Radiological Examination by Using Representative Quality Indicators (RQIs)¹

This standard is issued under the fixed designation E 1817; 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 practice covers the radiological examination of unique materials or processes, or both, for which conventionally designed image quality indicators (IQIs), such as those described in Practices E 747 and E 1025, may be inadequate in controlling the quality and repeatability of the radiological image.

1.2 Where appropriate, representative image quality indicators (RQIs) may also represent criteria levels of the acceptance or rejection of images of discontinuities.

1.3 This practice is applicable to most radiological methods of examination.

1.4 *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:²

~~E 543 Practice for Evaluating Agencies that Perform Nondestructive Testing~~ Specification for Agencies Performing Nondestructive Testing

E 747 Practice for Design, Manufacture, and Material Grouping Classification of Wire Image Quality Indicators (IQI) Used for Radiology

E 1000 Guide for Radioscopy

E 1025 Practice for Design, Manufacture, and Material Grouping Classification of Hole-Type Image Quality Indicators (IQI) Used for Radiology

E 1316 Terminology for Nondestructive Examinations

E 1441 Guide for Computed Tomography (CT) Imaging

2.2 ASNT Standards:³

SNT-TC-1A Recommended Practice for Personnel Qualification in Nondestructive Testing

ANSI/ASNT CP-189 Standard for Qualification and Certification of Nondestructive Testing Personnel

2.3 Aerospace Industries Association Document:

NAS 410 Certification and Qualification of Nondestructive Testing Personnel⁴

3. Terminology

3.1 *Definitions*—For definitions of terms used in this practice, refer to Terminology E 1316.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *representative quality indicator (RQI)*— a real part, or a fabrication of similar geometry in radiologically similar material to a real part, that has features of known characteristics that represent ~~all those features of the features~~ interest for which the parts to be purchased are being examined.

¹ This practice is under the jurisdiction of ASTM Committee E07 on Nondestructive Testing and is the direct responsibility of Subcommittee E07.01 on Radiology (X and Gamma) 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*, Vol 03-03, volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American Society for Nondestructive Testing, 1711 Arlingate Plaza, P.O. Box 28518, Columbus, OH 43228-0518.

³ Available from American Society for Nondestructive Testing (ASNT), P.O. Box 28518, 1711 Arlingate Ln., Columbus, OH 43228-0518, <http://www.asnt.org>.

⁴ Available from Aerospace Industries Association of America, Inc., 1250 Eye St., NW, Washington, DC 20005.

⁴ Available from Aerospace Industries Association of America, Inc. (AIA), 1000 Wilson Blvd., Suite 1700, Arlington, VA 22209-3928, <http://www.aia-aerospace.org>.