



Standard Test Method for Radiographic Examination of Weldments¹

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1. Scope

1.1 This test method provides a uniform procedure for radiographic examination of weldments using industrial radiographic film. Requirements expressed in this method are intended to control the quality of the radiographic images and are not intended for controlling acceptability or quality of welds.

1.2 The radiographic extent, the quality level, and the acceptance criteria to be applied shall be specified in the contract, purchase order, product specification, or drawings.

1.3 The radiographic test method is highly sensitive to detection of volumetric discontinuities. The radiographic techniques stated herein provide adequate assurance for defect detectability; however, it is recognized that, for special applications, specific techniques using more stringent requirements may be required to provide additional detection capability. The use of specific radiographic techniques shall be agreed upon between purchaser and supplier.

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.* (For more specific safety precautionary information, see Section 7.)

2. Referenced Documents

2.1 ASTM Standards:

- E 94 Guide for Radiographic Testing²
- E 242 Reference Radiographs for Appearances of Radiographic Images as Certain Parameters are Changed²
- E 390 Reference Radiographs for Steel Fusion Welds²
- E 543 Practice for Evaluating Agencies that Perform Nondestructive Testing²
- E 746 Test Method for Determining Relative Image Quality Response of Industrial Radiographic Film²
- E 747 Practice for Design, Manufacture and Material Grouping Classification of Wire Image Quality Indicators (IQI) Used for Radiology²
- E 999 Guide for Controlling the Quality of Industrial Ra-

diographic Film Processing²

E 1025 Practice for Design, Manufacture, and Material Grouping Classification of Hole-Type Image Quality Indicators (IQI) Used for Radiology²

E 1316 Terminology for Nondestructive Examinations²

2.2 ASNT Standards:

Recommended Practice No. SNT-TC-1A Personnel Qualification and Certification in Nondestructive Testing³

ANSI/ASNT-CP-189 Standard for Qualification and Certification of Nondestructive Testing Personnel³

2.3 Military Standard:

MIL-STD-410 Nondestructive Testing Personnel Qualification and Certification⁴

3. Terminology

3.1 *Definitions*—For definitions of terms used in this test method, see Terminology E 1316.

4. Basis of Application

4.1 *Personnel Qualification*—Nondestructive testing (NDT) personnel shall be qualified in accordance with a nationally recognized NDT personnel qualification practice or standard such as ANSI/ASNT-CP-189, SNT-TC-1A, MIL STD-410, or a similar document. The practice or standard used and its applicable revision shall be specified in the contractual agreement between the using parties.

4.2 *Qualification of Nondestructive Agencies*—If specified in the contractual agreement, NDT agencies shall be qualified and evaluated in accordance with Practice E 543. The applicable edition of Practice E 543 shall be specified in the contractual agreement.

4.3 *Time of Examination*—The time of examination shall be in accordance with 8.1 unless otherwise specified.

4.4 *Procedures*—The procedures to be utilized shall be as described in 7.1.

4.5 *Extent of Examination*—The extent of the examination shall be in accordance with 7.2.

4.6 *Reporting Criteria/Acceptance Criteria*—Reporting criteria of the examination results shall be in accordance with Section 11.

4.7 *Reexamination of Repaired or Reworked Items*—

¹ This test method is under the jurisdiction of ASTM Committee E-7 on Nondestructive Testing and is the direct responsibility of Subcommittee E07.01 on Radiographic Practice and Penetrators.

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² *Annual Book of ASTM Standards*, Vol 03.03.

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

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