



Standard Guide for Radiographic Examination¹

This standard is issued under the fixed designation E94; 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 This guide² covers satisfactory X-ray and gamma-ray radiographic examination as applied to industrial radiographic film recording. It includes statements about preferred practice without discussing the technical background which justifies the preference. A bibliography of several textbooks and standard documents of other societies is included for additional information on the subject.

1.2 This guide covers types of materials to be examined; radiographic examination techniques and production methods; radiographic film selection, processing, viewing, and storage; maintenance of inspection records; and a list of available reference radiograph documents.

NOTE 1—Further information is contained in Guide E999, Practice E1025, Test Methods E1030, and E1032.

1.3 *Interpretation and Acceptance Standards*—Interpretation and acceptance standards are not covered by this guide, beyond listing the available reference radiograph documents for castings and welds. Designation of accept - reject standards is recognized to be within the cognizance of product specifications and generally a matter of contractual agreement between producer and purchaser.

1.4 *Safety Practices*—Problems of personnel protection against X rays and gamma rays are not covered by this document. For information on this important aspect of radiography, reference should be made to the current document of the National Committee on Radiation Protection and Measurement, Federal Register, U.S. Energy Research and Development Administration, National Bureau of Standards, and to state and local regulations, if such exist. For specific radiation safety information refer to NIST Handbook ANSI 43.3, 21 CFR 1020.40, and 29 CFR 1910.1096 or state regulations for agreement states.

¹ This guide 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.

Current edition approved June 1, 2010. Published November 2010. Originally approved in 1952. Last previous edition approved in 2004 as E94 - 04. DOI: 10.1520/E0094-04R10.

² For ASME Boiler and Pressure Vessel Code applications see related Guide SE-94 in Section V of that Code.

1.5 *This standard does not purport to address all of the safety problems, 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.* (See 1.4.)

1.6 If an NDT agency is used, the agency shall be qualified in accordance with Practice E543.

2. Referenced Documents

2.1 ASTM Standards:³

- E543 Specification for Agencies Performing Nondestructive Testing
- E746 Practice for Determining Relative Image Quality Response of Industrial Radiographic Imaging Systems
- E747 Practice for Design, Manufacture and Material Grouping Classification of Wire Image Quality Indicators (IQI) Used for Radiology
- E801 Practice for Controlling Quality of Radiological Examination of Electronic Devices
- E999 Guide for Controlling the Quality of Industrial Radiographic Film Processing
- E1025 Practice for Design, Manufacture, and Material Grouping Classification of Hole-Type Image Quality Indicators (IQI) Used for Radiology
- E1030 Test Method for Radiographic Examination of Metallic Castings
- E1032 Test Method for Radiographic Examination of Weldments
- E1079 Practice for Calibration of Transmission Densitometers
- E1254 Guide for Storage of Radiographs and Unexposed Industrial Radiographic Films
- E1316 Terminology for Nondestructive Examinations
- E1390 Specification for Illuminators Used for Viewing Industrial Radiographs
- E1735 Test Method for Determining Relative Image Quality of Industrial Radiographic Film Exposed to X-Radiation from 4 to 25 MeV

³ 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.