



Standard Guide for Radiographic Examination¹

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This standard has been approved for use by agencies of the 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 E 999, Practice E 1025, Test Methods E 1030 and E 1032.

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.

1.5 *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 E 543.

2. Referenced Documents

2.1 ASTM Standards:

E 543 Practice for Evaluating Agencies that Perform Non-destructive Testing³

E 746 Test Method for Determining Relative Image Quality Response of Industrial Radiographic Film³

E 747 Practice for Design, Manufacture, and Material Grouping Classification of Wire Image Quality Indicators (IQI) Used for Radiology³

E 801 Practice for Controlling Quality of Radiological Examination of Electronic Devices³

E 999 Guide for Controlling the Quality of Industrial Radiographic Film Processing³

E 1025 Practice for Design, Manufacture, and Material Grouping Classification of Hole-Type Image Quality Indicators (IQI) Used for Radiology³

E 1030 Test Method for Radiographic Examination of Metallic Castings³

E 1032 Test Method for Radiographic Examination of Weldments³

E 1079 Practice for Calibration of Transmission Densitometers³

E 1254 Guide for Storage of Radiographs and Unexposed Industrial Radiographic Films³

E 1316 Terminology for Nondestructive Examinations³

E 1390 Guide for Illuminators Used for Viewing Industrial Radiographs³

E 1735 Test Method for Determining Relative Image Quality of Industrial Radiographic Film Exposed to X-Radiation from 4 to 25 MV³

E 1742 Practice for Radiographic Examination³

E 1815 Test Method for Classification of Film Systems for Industrial Radiography³

2.2 ANSI Standards:

¹ This guide is under the jurisdiction of ASTM Committee E-7 on Nondestructive Testing and is the direct responsibility of Subcommittee E07.01 on Radiology (X and Gamma) Method.

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

³ *Annual Book of ASTM Standards*, Vol 03.03.