



Designation: E802 – 21

Standard Reference Radiographs for Gray Iron Castings Up to 4½ in. (114 mm) in Thickness¹

This standard is issued under the fixed designation E802; 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 reappraisal. A superscript epsilon (ε) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 These reference radiographs for gray iron castings consist of one set of illustrations of centerline shrinkage with severity levels 1 to 5 using three radiation source types as follows:

1.1.1 *Volume I: Medium Voltage (Nominal 250 kVp) X-ray Reference Radiographs*—Set of 5 severity levels in a 15 by 17 in. folder.

1.1.2 *Volume II: Iridium-192 Reference Radiographs*—Set of 5 severity levels in a 15 by 17 in. folder.

1.1.3 *Volume III: Cobalt-60 Reference Radiographs*—Set of 5 severity levels in a 15 by 17 in. folder.

NOTE 1—The reference radiograph films are an adjunct to this document and must be purchased separately from ASTM International if needed.

1.2 From time to time, there may be minor changes to the process for manufacturing of the reference radiograph adjunct materials. These changes could include changes in the films or processing chemicals used, changes in the dies or printing for the cardboard mats, etc.; however, in all cases, these changes are reviewed by the Illustration Monitoring Subcommittee and all reference radiographs are reviewed against a fixed prototype image to ensure that there are no changes to the acceptance level represented by the reference radiographs. Therefore, the adjunct reference radiographs remain valid for use with this standard regardless of the date of production or the revision level of the text standard.

1.3 *Units*—The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

¹ These reference radiographs are under the jurisdiction of ASTM Committee E07 on Nondestructive Testing and are the direct responsibility of Subcommittee E07.02 on Reference Radiological Images.

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1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

E94 Guide for Radiographic Examination Using Industrial Radiographic Film

E186 Reference Radiographs for Heavy-Walled (2 to 4½ in. (50.8 to 114 mm)) Steel Castings

E242 Reference Radiographs for Appearances of Radiographic Images as Certain Parameters are Changed

E446 Reference Radiographs for Steel Castings Up to 2 in. (50.8 mm) in Thickness

E1316 Terminology for Nondestructive Examinations

2.2 ASTM Adjuncts:

Reference Radiographs for Gray Iron Castings Up to 4½ in. (114 mm) in Thickness:

Volume I, Medium Voltage (Nominal 250 kVp) X-rays³

Volume II, Iridium-192⁴

Volume III, Cobalt-60⁵

3. Terminology

3.1 *Definitions*—For definitions of terms used in this document, see Terminology E1316, Section D.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *production radiograph, n*—a radiograph under review for compliance with this standard.

4. Significance and Use

4.1 *Personnel Qualification*—Personnel utilizing reference radiographs to this standard shall be qualified to perform

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.

³ Available from ASTM International Headquarters. Order Reference Radiograph No. RRE080201.

⁴ Available from ASTM International Headquarters. Order Reference Radiograph No. RRE080202.

⁵ Available from ASTM International Headquarters. Order Reference Radiograph No. RRE080203.