Designation: E802 – 15

Standard Reference Radiographs for Gray Iron Castings Up to 4½ in. (114 mm) in Thickness [1]

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 reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

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

2. Referenced Documents

2.1 *ASTM Standards:*[2]

E94 Guide for Radiographic Examination

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

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-rays[3]

Volume II, Iridium-192[4]

Volume III, Cobalt-60[5]

3. Terminology

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

4. Significance and Use

4.1 These reference radiographs, along with the referenced applicable steel casting standards (Reference Radiographs E186 and E446), are supplied as a means of establishing categories and severity levels of common internal discontinuity types in gray iron castings subjected to radiographic examination. They may be used in accordance with contractual specifications as agreed upon between purchaser and supplier.

4.2 The use of this standard is not intended to be restricted to the specific energy level or to the absolute thickness limits that are contained in this standard title. The title is intended to be descriptive and not restrictive. This document may be used, where there is no other applicable document, for other energy levels or thicknesses, or both, for which it is found to be

[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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[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.