



Designation: F629-02 (Reapproved 2007)^{ε1} Designation: F629 – 11

Standard Practice for Radiography of Cast Metallic Surgical Implants¹

This standard is issued under the fixed designation F629; 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.

~~^{ε1}Note—Subsections 4.1, 5.1, and 5.3 were editorially corrected in March 2008.~~

1. Scope

1.1 This practice covers the procedure for radiographic testing of cast metallic surgical implants and related weldments.
1.2

1.2 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.

1.3 *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](#)

E192 [Reference Radiographs of Investment Steel Castings for Aerospace Applications](#)

E1030 ~~[Test Method for Radiographic Examination of Metallic Castings](#)~~ [Test Method for Radiographic Examination of Metallic Castings](#)

E1320 [Reference Radiographs for Titanium Castings](#)

E2660 [Digital Reference Images for Investment Steel Castings for Aerospace Applications](#)

E2669 [Digital Reference Images for Titanium Castings](#)

F2895 [Practice for Digital Radiography of Cast Metallic Implants](#)

2.2 *ASNT Standard:*

SNT-TC-1A [Recommended Practice for Personnel Qualification and Certification in Nondestructive Testing](#)³

3. Terminology

3.1 For definitions used in this practice, refer to the terms in Test Method E1030 and Reference Radiographs E192.¹

4. Significance and Use

4.1 ~~The~~ 4.1 The requirements in this practice are intended to control the quality of the radiographic image of cast metallic surgical implants and related weldments.

5. Radiographic Methods

5.1 ~~The~~ 5.1 The radiographic method shall be agreed upon between the purchaser and supplier but should be in accordance with Test Method E1030 and Guide E94.

5.1.1 Acceptance criteria should be derived from the reference radiographs presented in Reference Radiographs E192, E1320, or digital reference images E2660 and E2669.

5.2 ~~Radiography of cobalt- or iron-base surgical implant castings may create film images resulting from grain diffraction. Radiographic techniques shall be utilized to ensure differentiation between these images and actual indications.~~

¹ This practice is under the jurisdiction of ASTM Committee F04 on Medical and Surgical Materials and Devices and is the direct responsibility of Subcommittee F04.12 on Metallurgical Materials.

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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 American Society for Nondestructive Testing (ASNT), P.O. Box 28518, 1711 Arlingate Ln., Columbus, OH 43228-0518, <http://www.asnt.org>.