



Designation: D7866 – 23

Standard Specification for Radiation Attenuating Protective Gloves¹

This standard is issued under the fixed designation D7866; 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 To describe the requirements for packaged protective gloves with radiation attenuating properties intended to protect the operator or other persons from unnecessary exposure to radiation during radiological procedures by providing an attenuating barrier to radiation. Minimum attenuation values will be defined.

1.2 *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.*

1.3 *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

[F2547 Test Method for Determining the Attenuation Properties in a Primary X-ray Beam of Materials Used to Protect Against Radiation Generated During the Use of X-ray Equipment](#)

¹ This specification is under the jurisdiction of ASTM Committee D11 on Rubber and Rubber-like Materials and is the direct responsibility of Subcommittee D11.40 on Consumer Rubber Products.

Current edition approved April 1, 2023. Published May 2023. Originally approved in 2014. Last previous edition approved in 2014 as D7866 – 14a. DOI: 10.1520/D7866-23.

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. Classification

3.1 Gloves compounded from natural rubber latex, rubber cement or synthetic polymers.

4. Materials and Manufacture

4.1 Any natural or synthetic compound with lead, bismuth, tungsten, barium, or other metallic content that permits the glove to meet the requirements of this specification.

5. Attenuation Requirements

5.1 The radiation attenuation of the glove shall be determined by using Test Method [F2547](#).

5.1.1 Sample size shall be two gloves, three samples from each glove for a total of six samples. A 5 by 5 cm square sample shall be taken from the thinnest portion of the palm, cuff, and finger. The lowest attenuation results for each of the palm, finger, and cuff from both gloves tested will be documented on the report.

5.2 A radiation attenuation glove must attenuate per the minimum values shown in the following table at each kVp level:

60 kVp	80 kVp	100 kVp	120 kVp
29 %	22 %	18 %	15 %

6. Labeling Requirements

6.1 The final glove packaging shall be labeled as a Radiation Attenuating Protective Glove.

6.2 The lowest reading from the cuff, palm, and finger shall be included on the glove packaging.

6.3 Local labeling regulatory requirements shall be followed for the packaging.

7. Keywords

7.1 glove; radiation attenuation; x-ray