



Standard Practice for Body Armor Wearer Measurement and Fitting of Armor¹

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1. Scope

1.1 This practice provides measurement and fit guidance for soft ballistic-resistant or stab-resistant body armor, or both, covering the torso. Proper measurement of the wearer and fitting of armor to that individual are necessary to obtain sufficient coverage of the torso and vital organs while allowing the full range of motion required for officer operations.

1.2 This practice is primarily directed toward law enforcement and corrections officers and addresses measurements for and fit of concealable (normal duty) body armor worn under or over the uniform for both male and female wearers. This practice addresses only body armor composed of front and back protective panels contained within a carrier that positions and holds the panels on the torso.

1.3 Female wearers require more measurements than male wearers to achieve proper armor fit; therefore, the minimum required measurements are specified individually for males and females.

1.4 In addition to the required measurements, optional measurements are recommended when necessary to accommodate the wearer's body shape and dimensions.

1.5 Measurement guidance is provided in Section 5 of this practice. Section 5 may also be used to train individuals on proper measurement techniques.

1.6 In addition to measurement guidance, this practice provides two tools for assessing armor relative to the intended wearer:

(1) Comparison of wearer measurements and armor measurements in Section 6.

(2) Personal armor fit assessment in Section 7.

1.7 *Units*—English units are specified in this standard to be consistent with measurement units used in the United States body armor community. Approximate values in SI units are given in parentheses.

1.8 *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

D5219 Terminology Relating to Body Dimensions for Apparel Sizing

E3005 Terminology for Body Armor

F1731 Practice for Body Measurements and Sizing of Fire and Rescue Services Uniforms and Other Thermal Hazard Protective Clothing

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *apex, n*—the greatest protrusion of the breast as seen from the side (Terminology **D5219**). (See Fig. 1 and Fig. 2.)

3.1.2 *armhole, n*—in garment construction, the area of a garment through which the arm passes or into which a sleeve is fitted. (Practice **F1731** – 96 (2013))

3.1.3 *back break-point, n*—the location on the back of the torso where the arm separates from the body (Terminology **D5219**). See Fig. 1 and Fig. 2.

3.1.4 *back width, n*—the horizontal distance straight across the back of the torso at the level of the back break-points; for the purposes of this practice, the back width measurement is defined to be the same value as the chest width measurement. See Fig. 3.

3.1.5 *body armor, n*—an item of personal protective equipment intended to protect the wearer from threats that may include ballistic threats, stabbing, fragmentation, or blunt impact. (Terminology **E3005**)

3.1.5.1 *Discussion*—Law enforcement and corrections officers typically refer to body armor as a *vest*.

3.1.6 *bust point to bust point, n*—the horizontal distance from apex to apex. (Adapted from Terminology **D5219**.) See Fig. 4.

¹ This practice is under the jurisdiction of ASTM Committee **E54** on Homeland Security Applications and is the direct responsibility of Subcommittee **E54.04** on Personal Protective Equipment (PPE).

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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.