



Designation: C 167 – 98 (Reapproved 2003)

Standard Test Methods for Thickness and Density of Blanket or Batt Thermal Insulations¹

This standard is issued under the fixed designation C 167; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 These test methods cover the determination of thickness and density of flexible, felted, or woven thermal insulating blankets, rolls, or batts composed of fibrous materials, with or without surface covering or reinforcement.

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

2. Referenced Documents

2.1 *ASTM Standards:*

C 168 Terminology Relating to Thermal Insulation²

3. Terminology

3.1 *Definitions*—Terminology **C 168** shall be considered as applicable to the terms used in these test methods.

4. Significance and Use

4.1 Proper measurements of thickness and density of blanket or batt insulations are essential for determining thermal insulation properties. For a particular batt or blanket product, thickness and density are usually directly related to thermal insulating value.

4.2 These test methods are of significant value in manufacturing quality control, to ensure that claimed insulation values of products are maintained.

5. Apparatus

5.1 *Depth Gage*, of the type shown in Fig. 1. The disk shall be fabricated of a suitable clear plastic material, so that the operator can see when contact is made with the insulation. The disk shall be perpendicular to the pin at all times and shall have

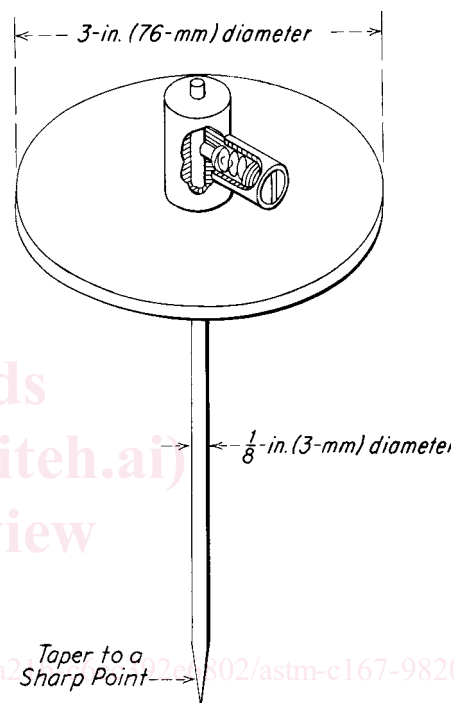


FIG. 1 Depth Gage for Thickness Measurements

a friction device to grip the pin unless purposely moved. The pin shall be of sufficient length for the material to be measured.

5.2 *Steel rule*, graduated in 0.05-in. or 1-mm intervals.

5.3 *Scales*, of sufficient capacity and sensitivity to weigh the test specimen to an accuracy of $\pm 0.5\%$.

6. Sampling

6.1 A test sample shall consist of one representative roll or bundle of insulation.

6.2 *Sampling of Bundles*—For bundles which contain 20 or more batts, five batts shall be selected. Otherwise, either the three-batt or five-batt selection technique may be used. Batt's which are folded in half shall count as two batts for purposes of choosing and employing the selection method.

6.2.1 *Three-Batt Method*—Select the center batt and the second batt in from each end of the package.

¹ These test methods are under the jurisdiction of ASTM Committee C16 on Thermal Insulation and are the direct responsibility of Subcommittee C16.32 on Mechanical Properties.

Current edition approved April 10, 2003. Published July 2003. Originally approved in 1941. Last previous edition approved in 1998 as C 167 – 98.

² *Annual Book of ASTM Standards*, Vol 04.06.

