

Standard Test Method for Measuring the Headroom of a Backpacking or Mountaineering Tent¹

This standard is issued under the fixed designation F1935; 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 This test method covers tents for use in the sports of backpacking and mountaineering. It establishes requirements for the testing and marking of tents.

1.2 This test method may contain test methods that do not entirely simulate real life situations. This test method is designed to give reproducible results in a laboratory and thereby a means for product comparison.

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. Terminology

2.1 Definitions of Terms Specific to This Standard:

2.1.1 *tent*—a portable shelter made primarily of fabric weighing less than 3 oz/yd², designed to be carried by the occupants for while backpacking or mountaineering.

2.1.2 *usable headroom*—the interior vertical measurement of a tent measured from the tent floor to the high point on the ceiling using a simple fixture that simulates an average user's head.

3. Summary of Test Method

3.1 The tent should be pitched on a flat surface in accordance with the company's supplied pitching instructions .

3.2 The fixture shall be placed inside the tent. The ball is raised until it comes into contact with the ceiling, wall, poles, or any other obstructions inside the tent.

3.3 The tape measure will now be hanging directly below the ball. The headroom measurement will be where the measuring tape hits the tent floor. If the tent does not have a floor, record the measurement to the surface the tent has been set up on.

¹ This test method is under the jurisdiction of ASTM Committee F08 on Sports Equipment and Facilities and is the direct responsibility of Subcommittee F08.22 on Camping Softgoods.

Current edition approved April 1, 2011. Published June 2011. Originally approved in 1998. Last previous edition approved in 2007 as F1935 – 01 (2007). DOI: 10.1520/F1935-01R11.

4. Significance and Use

4.1 This test method can be used to quantify and compare headroom of backpacking and mountaineering tents. The measured headroom can be used as a manufacturing standard or a measurement that can be used by consumers to compare the interior height of a variety of tents, or both.

5. Apparatus

5.1 *Specifications for Headroom Measurement Fixture (see Fig. 1):*

5.1.1 Styrofoam ball 6 inches in diameter (mean width of male head = 6.1 in.).²

5.1.2 *Tape Measure, 1/4 in. Graduations*—The tape is mounted into the bottom of the Styrofoam ball, and the first 6 inches are removed from the tape. In this way, the reading will be simple and accurate.

6. Conditioning

6.1 Tests may be completed under ambient conditions. In cases of dispute, test samples shall be conditioned in accordance with 6.2.

6.2 The tent samples are first erected and dried in an atmosphere with a relative humidity of less than 10 % for a minimum period of 24 h. They are then placed in an atmosphere of 50 ± 5 % relative humidity, 20 ± 2 °C for a minimum period of 72 h. Tests may then be done outside the conditioning room, but the temperature shall be 23 ± 5 °C and the tests shall begin within 5 min. of removal from conditioning and be completed within 4 h.

7. Sampling, Test Specimens, and Test Units

7.1 The tent test specimen shall be new and in unused condition. When possible, it shall be selected randomly from a production lot of a given model of tent. It shall conform in all respects to the manufacturer's specifications for that model.

8. Report

8.1 The test report shall include the name of the tent manufacturer, the model of tent tested, the date and location of

² Henry Dreyfuss Associates, *The Measure of Man and Woman: Human Factors in Design*, Whitney Library of Design, 1993.

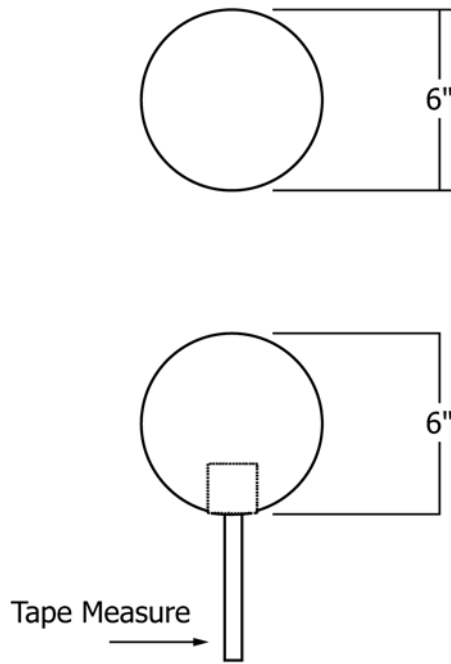


FIG. 1 A Typical Fixture for Measuring Headroom

the tests, the name(s) of personnel conducting the tests, if the tent is a production model or prototype, and the peak height.

8.2 Markings, if included in the tent or marketing literature, shall reference this test method.

9. Precision and Bias

9.1 The precision of this test method is within $\frac{1}{4}$ in. The bias of this test method has not yet been determined.

10. Keywords

10.1 backpacking; height; mountaineering; peak; tents

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