



Designation: F 1492 – 00

An American National Standard

Standard Specifications for Helmets Used in Skateboarding and Trick Roller Skating¹

This standard is issued under the fixed designation F 1492; 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 These specifications cover performance requirements for helmets to be used in the activities of skateboarding and trick roller skating.

1.2 All testing and requirements of these specifications are to be carried out in accordance with Test Method F 1446, except where noted herein.

1.3 The values stated in SI units are to be regarded as the standard.

1.4 *Partial utilization of this specification is prohibited. Any statement of compliance with this specification shall be a certification that the product meets all of the requirements of the specification in their entirety. A product that fails to meet any one of the requirements of this specification is considered to have failed the specification, and shall not be sold with any indication that it meets parts of the specification.*

1.5 *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

F 1446 Test Methods for Equipment and Procedures Used in Evaluating the Performance Characteristics of Protective Headgear

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *trick roller-skating, n*—aggressive roller skating using quads or in-lines and involving such things as jumping, sliding sideways, or skating on ramps or stairs.

3.1.2 *in-lines, n*—roller skates with all wheels on each skate arranged along a single longitudinal line.

3.1.3 *quads, n*—roller skates with four wheels on each skate arranged in a rectangular pattern.

4. Peak Acceleration and Time Duration Requirements

4.1 The peak acceleration (*g* max) of the impulse during the impact shall be measured with equipment described in Test Method F 1446.

4.2 The peak acceleration of any impact shall not exceed 300 *g*.

5. Retention System Requirement

5.1 The retention system, when tested in accordance with Section 13, shall remain intact without elongating more than 30 mm.

6. Labels and Warnings

6.1 In addition to the labeling requirements outlined in Test Method F 1446, the helmet shall have the words “For use in skateboarding or trick roller skating” inscribed on one of the interior permanent labels.

TEST METHODS

7. Headforms

7.1 Headforms to be used shall be as specified in Section 5 of Test Method F 1446. The appropriate size headform shall be selected (see 4.7 of Test Method F 1446) for the helmet to be tested.

8. Anvils

8.1 Anvils to be used for impact tests in this specification are described as follows:

8.1.1 *Flat*—Constructed of solid steel with an impact face having a minimum diameter of 125 mm and a minimum thickness of 24 mm.

8.1.2 *Cylindrical Hazard Anvil*—Designed to simulate the corner coping found on each end of the “half-pipe” skateboard arena. It is constructed of a solid steel bar with a diameter of 75 ± 2 mm, and a length of at least 205 mm. The bar may be machined flat on one side to facilitate mounting rigidly to the base of the drop-test assembly (see Fig. 1).

¹ These specifications are under the jurisdiction of ASTM Committee F08 on Sports Equipment, Surfaces, and Facilities and are the direct responsibility of Subcommittee F08.53 on Headgear.

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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.

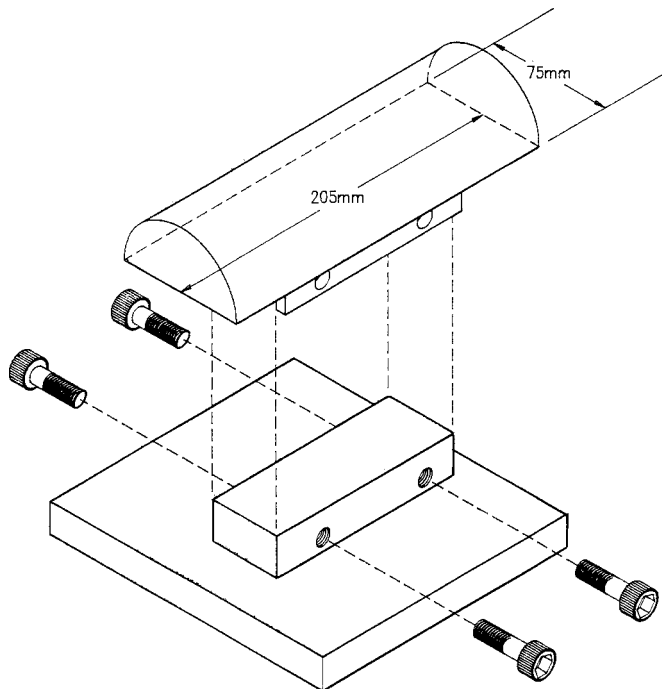


FIG. 1 Cylindrical Hazard Anvil

8.1.3 *Triangular Hazard Anvil*—Designed to simulate hazards with sharp 90° edges encountered during skateboarding. It is constructed of a solid steel triangular bar, at least 200 mm long, with two 50-mm faces forming a 90° angle. The apex of the 90° angle faces upward. The apex of the 90° angle is rad-fused or chamfered 0.5 to 1.5 mm (see Fig. 2).

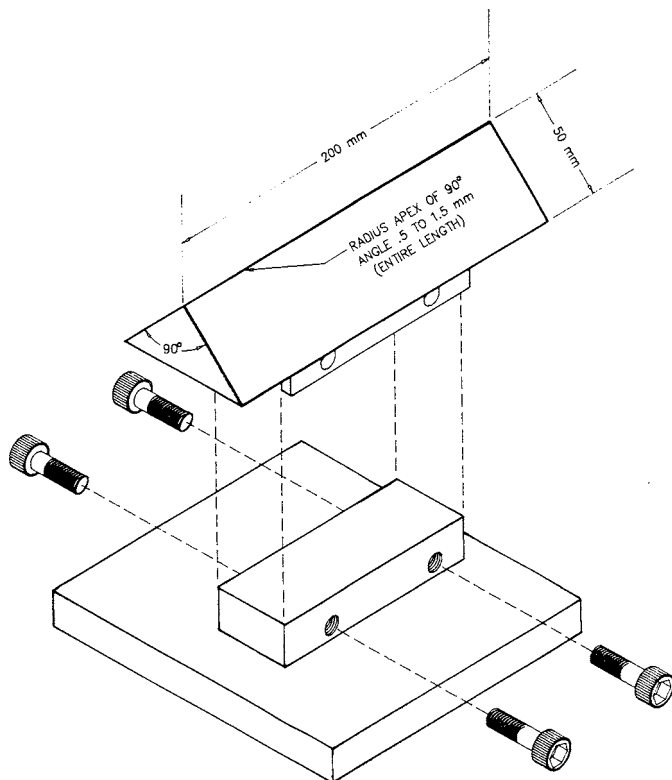


FIG. 2 Triangular Hazard Anvil

9. Marking the Test Line (Area of Required Coverage)

9.1 Place the helmet on the appropriate reference head form (see 4.15 of Test Method F 1446) and preload with a preload ballast weight of 5 kg.

9.2 Position the helmet as specified by the manufacturer's head-positioning-index (HPI) with the brow parallel to the basic plane.

9.3 Mark the test line ABCD as shown in Fig. 3.

9.4 The helmet can be impacted anywhere on or above the test line.

9.5 Test anvils can be oriented in any horizontal direction.

10. Conditioning and Number of Samples

10.1 Requirements of the number of each model and size to be tested are described in 10.2 of Test Method F 1446.

10.2 Conditioning of the samples to be tested is described in Sections 11 and 12 of Test Method F 1446.

11. Retention System Testing

11.1 Retention system testing shall be performed before impact testing.

11.2 *Dynamic Strength Retention Test*—The hot, cold and wet helmets shall be subjected to the dynamic loading test. Place the helmet on the appropriate size headform on the test device described in Section 15 and in Fig. 5 of Test Method F 1446.

11.2.1 Place the twin bar (jaw) system with rod and drop weight attached within the fastened retention system.

11.2.2 Mark the position of the twin bar with preload and drop weights in position.

11.2.3 Drop a 4 kg sliding weight a distance of 0.6 m.

11.2.4 The retention system shall remain intact without elongating more than 30 mm.

11.3 The ambient helmet shall be subjected to the positional stability test (roll-off) test per Test Method F 1446 using a 4 kg drop mass from a height of 0.6 m.

11.3.1 The retention system shall remain intact and the helmet must remain on the headform.

12. Impact Sites

12.1 Impact sites are described in 16.2 of Test Method F 1446.

13. Impact Velocity

13.1 All impacts performed in these specifications are to be at a velocity of 4.57 m/s, +5 %, -0 %, (see 16.3 and 16.4 of Test Method F 1446) at a minimum drop height of 1.0 m.

14. Impacting Schedule

14.1 All impacting will be carried out in accordance with Test Method F 1446, except as noted in 14.1.1 and 14.1.2.

14.1.1 At least one of the four impact sites (as described in Test Method F 1446) on the ambient conditioned helmet will be impacted three consecutive times with the flat anvil at the same test location to evaluate the helmet's ability to withstand multiple impacts. A time interval of 90 ± 30 s, must elapse between impacts directed at the same location on the same helmet.