Designation: F1849 – 07 (Reapproved 2012)

An American National Standard

Standard Specification for Helmets Used in Short Track Speed Ice Skating (Not to Include Hockey)[1]

This standard is issued under the fixed designation F1849; 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 specification covers performance requirements for helmets used by short track speed ice skaters (excluding hockey). This specification recognizes the desirability of lightweight construction and ventilation; however, it is a performance standard and is not intended to restrict design.

1.2 All testing and requirements of this specification shall be in accordance with Test Methods F1446, except where noted herein.

1.3 *Partial utilization of this specification is prohibited. Any statement of compliance with this specification must be a certification that the headgear meets all of the requirements of the specification in their entirety. A headgear 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.*

1.4 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

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]

F1446 Test Methods for Equipment and Procedures Used in Evaluating the Performance Characteristics of Protective Headgear

3. Labels and Warnings

3.1 Labels and warnings shall meet the requirements of Test Methods F1446.

3.2 Labels and warnings shall have the words "For short track speed ice skating (excluding hockey)" inscribed on one of the interior permanent labels.

3.3 Headgear designed to comply with this and other standards may proclaim uses as certified by the manufacturer.

4. Marking the Test Line

4.1 The test line is shown in Fig. 1 and shall be marked in accordance with Test Methods F1446.

5. Conditioning and Number of Samples

5.1 Conditioning shall be in accordance with Test Methods F1446.

5.2 The test requires a minimum of four samples of each shell/liner combination.

6. Retention System Testing

6.1 Retention system tests shall be performed before impact testing.

6.2 The ambient helmet shall be subjected to the positional stability (roll-off) test in accordance with Test Methods F1446 using a 4-kg drop mass from a height of 0.6 m.

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

6.4 The hot, cold, and wet helmets shall be subjected to the dynamic strength retention test in accordance with Test Methods F1446 using a 4-kg drop mass from a height of 0.6 m.

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

7. Impact Sites and Projections

7.1 Impact sites are described in Test Methods F1446.

7.2 *Projections*—Any unfaired projection extending more than 7 mm from the helmet's outer surface shall break away or collapse when impacted with forces equivalent to those produced by applicable impact-attenuation tests described in

[1] This specification is under the jurisdiction of ASTM Committee F08 on Sports Equipment, Playing Surfaces, and Facilitiesand is the direct responsibility of Subcommittee F08.53 on Headgear and Helmets.

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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.

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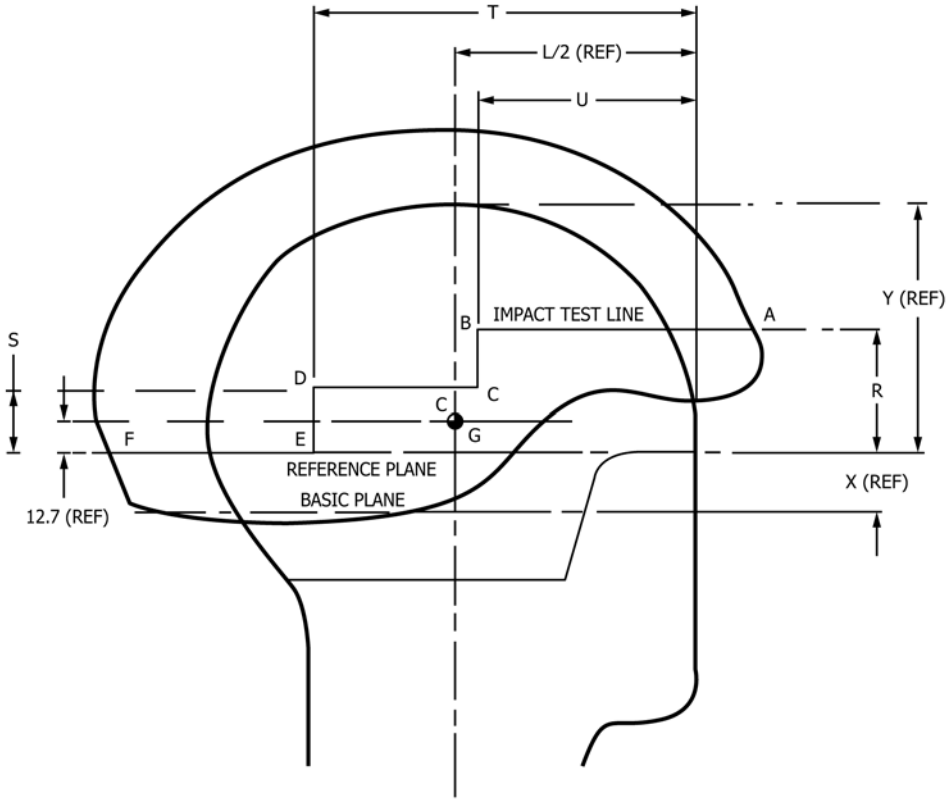


Headform Size	Dimensions (mm)						
	X	*L/2*	*Y*	*R*	*S*	*T*	*U*
A	24.0	88.0	89.7	47.0	23.0	142.0	84.0
E	26.0	94.5	96.0	49.0	24.0	151.0	88.0
J	27.5	101.0	102.5	50.5	25.0	160.0	92.0
M	29.0	106.0	107.0	52.0	27.0	166.0	96.0
O	30.0	108.5	110.0	53.0	27.0	170.0	97.0

NOTE 1—The center of impact can be anywhere on or above the test line.

FIG. 1 Marking the Test Line ABCDEF

Section 9. There shall be no fixture on the helmet's inner surface projecting more than 2 mm into the helmet interior except occipital stabilizers and foam fit pads.

8. Impacting Schedule

8.1 All impacting shall be performed in accordance with Test Methods F1446.

8.2 Helmets shall be impacted with the anvils centered on or above the test line described in Fig. 1.

8.3 The test anvils can be oriented in any horizontal, centered position.

9. Impact Testing

9.1 Retention system testing shall be completed prior to impact testing.

9.2 The helmet can be impacted such that the theoretical center of impact described in Test Methods F1446 is anywhere on or above the test line.

9.3 Anvils to be used are the flat anvil from Test Methods F1446 and the skate blade anvil shown in Fig. 2.

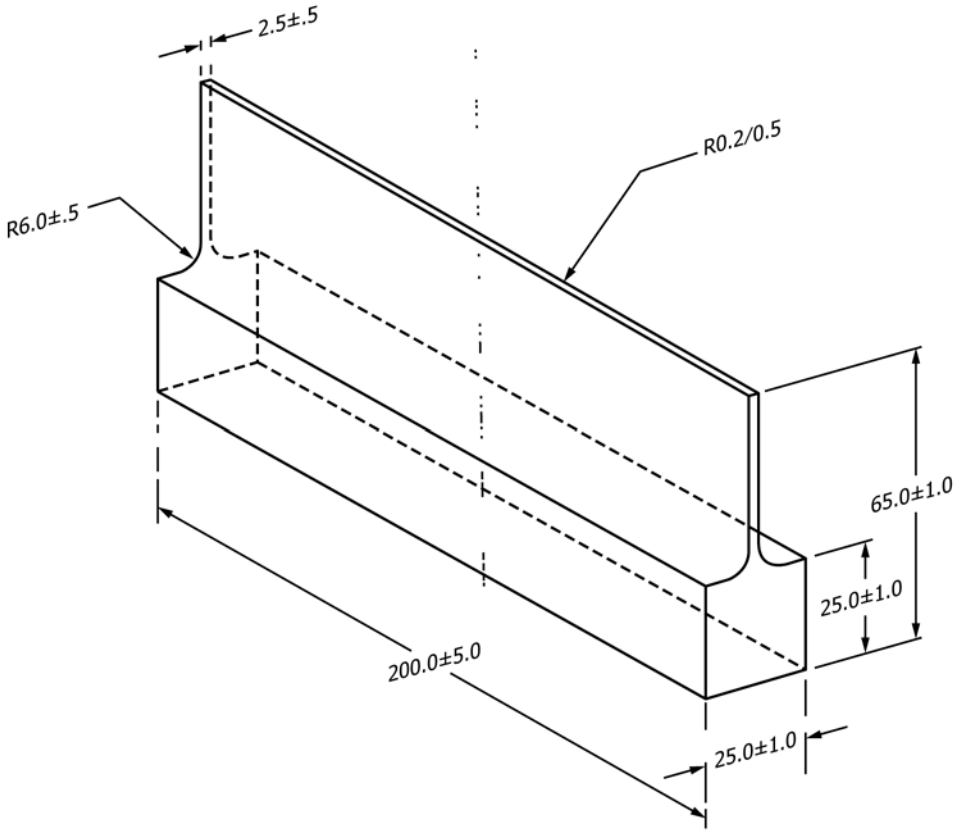
9.4 The helmet shall be dropped onto the flat anvil to achieve an impact velocity of 6.2 m/s ± 3 % (corresponding to a theoretical drop height of 2.0 m).

9.5 The helmet shall be dropped onto the skate blade anvil to achieve an impact velocity of 3.8 m/s ± 3 % (corresponding to a theoretical drop height of 0.75 m).

9.6 Each helmet shall be given two flat anvil impacts followed by one skate blade anvil impact followed by two flat anvil impacts.

9.7 The theoretical center of each impact site shall be separated from the theoretical center of other impact sites by a minimum of 150 mm.

9.8 The peak acceleration of each impact shall not exceed 300 g.



NOTE 1—All dimensions in millimetres.

FIG. 2 Skate Blade Anvil

10. Keywords

10.1 helmet; ice; skating; track

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