



Standard Performance Specification for Ice Hockey Helmets¹

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INTRODUCTION

Ice hockey is a contact sport with intrinsic hazards. The use of protective equipment will not eliminate all injuries but should substantially reduce the severity and frequency of injury. Participation in the sport of ice hockey by a player implies acceptance of some risk of injury. The goal is to minimize this risk.

This performance specification for head protective equipment has been prepared after consideration of head protection relative to the following principle risks: high-mass, low-velocity impact (various playing situations), and fit. This performance specification may be modified as other risks are identified.

Performance requirements were determined after consideration of state-of-the-art of helmet design and manufacture and the demands of the sport.

1. Scope

1.1 This performance specification² sets performance requirements for ice hockey helmets.

1.2 The intent of this performance specification is to reduce the risk of injury to the head without compromising the form and appeal of the game.

1.3 This performance specification covers (1) performance tests for shock absorption properties of the complete helmet and strength and elongation of the chin strap and its attachment; and (2) requirements for dimension of the ear aperture.

1.4 The values as stated in inch-pound units are to be regarded as the standard. The values in parentheses are given for information only.

1.5 The following precautionary caveat pertains only to the test methods portion, Section 12, of this performance specification: *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:

F 513 Safety Specification for Eye and Face Protective

Equipment for Hockey Players³

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 retention system:

3.1.1.1 *chin strap*—the chin strap, including a cup that covers the chin, (see Fig. 1) is affixed to both sides of the helmet and secures the helmet to the head when a Type II full face protector is not worn with the helmet.

3.1.1.2 *neck strap*—the neck strap that secures the helmet to the head is affixed on both sides of the helmet and passes under the lower jaw in close proximity to the jaw and the neck. Where the helmet is worn with a Type II full face protector, the neck strap serves as the attachment of the helmet to the head.

NOTE 1—For a description of the Type II face protector, see the Types of Protectors Section in Safety Specification F 513.

3.1.2 *crown*—a point in the median plane that is equal chord lengths from the anterior and posterior intersections of the median and reference planes.

3.1.3 *drop height*—the vertical distance between the lowest point (impact point) of the elevated helmet and the apex of the impact surface.

3.1.4 *g*—the dimensionless ratio of the acceleration of the headform during impact to the acceleration due to gravity.

3.1.4.1 $g_{\max}$ —the maximum value of *g* encountered during impact.

3.1.5 *helmet*—the complete product, including the shell, liner, and chin strap, including the cup and associated attachment hardware, assembled with components supplied by the

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² This performance specification is subject to revision as indicated by subsequent injury statistics and subject to review at least every five years.

³ *Annual Book of ASTM Standards*, Vol 15.07.