
**Protective equipment for use in ice
hockey —**

**Part 2:
Head protection for skaters**

*Équipements de protection destinés à être utilisés en hockey sur
glace —*

Partie 2: Protections de tête pour les skateurs

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 83, *Sports and other recreational facilities and equipment*, Subcommittee SC 5, *Ice hockey equipment and facilities*.

This first edition of ISO 10256-2, together with ISO 10256-1, ISO 10256-3, ISO 10256-4, ISO 10256-5, and ISO 10256-6 cancels and replaces the ISO 10256:2003, which has been technically revised.

ISO 10256 consists of the following parts, under the general title *Protective equipment for use in ice hockey*:

- *Part 1: General requirements*
- *Part 2: Head protection for skaters*
- *Part 3: Face protectors for skaters*
- *Part 4: Head and face protection for goalkeepers*
- *Part 5: Neck laceration protection for ice hockey players*

The following parts are under preparation:

- *Part 6: Lower leg protectors for ice hockey players*

Introduction

Ice hockey is a sport in which there is a risk of injury. Ice hockey helmets afford no protection from neck or spinal injury. Severe head, brain, or spinal injuries, including paralysis or death, can occur in spite of using an ice hockey helmet according to this part of ISO 10256.

The intention of head protection used in ice hockey is to reduce the frequency and severity of localized injuries to the head. The protective function is such that the force from impacts against the protector is distributed and dampened and the penetration of objects is counteracted.

Part of the head protection for use in ice hockey consists of a helmet. To achieve the performance of which it is capable and to ensure stability on the head, a helmet is intended to be as closely fitting as possible consistent with comfort. In use, it is essential that the helmet is securely fastened, with any chin strap or neck strap adjusted according to manufacturer's instructions.

Subcommittee 5 is aware that specifications for the performance of the helmet are required to reduce the risk of injury in ice hockey. There was consensus that most of today's head protectors meet the performance requirements of this part of ISO 10256. The goal of the subcommittee is to promote the use of better materials and/or constructions as they become available to meet the future requirements of the sport of ice hockey. Subcommittee 5 recognizes that in order to provide for comfort, fit and use, helmets is intended to have a mass consistent with providing the appropriate performance characteristics.

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Protective equipment for use in ice hockey —

Part 2: Head protection for skaters

1 Scope

This part of ISO 10256 specifies performance requirements and test methods for head protectors for use in ice hockey and is intended to be read in conjunction with ISO 10256-1.

Requirements and the corresponding test methods, where appropriate, are given for the following:

- a) construction and protected area;
- b) shock absorption;
- c) penetration;
- d) retention system properties;
- e) field of vision;
- f) marking and information.

This part of ISO 10256 applies to head protectors worn by

- players other than goalkeepers, and
- certain functionaries (e.g. referees).

NOTE 1 The requirements of a Clause take precedent over a figure.

NOTE 2 The intent of this part of ISO 10256 is to reduce the risk of injury to the head without compromising the form or appeal of the game.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6487, *Road vehicles — Measurement techniques in impact tests — Instrumentation*

ISO 10256-1:2016, *Protective equipment for use in ice hockey — Part 1: General requirements*

EN 960:2006, *Headforms for use in the testing of protective helmets*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10256-1 and the following apply.

3.1

drop height

vertical distance between the lowest point (impact point) of the elevated helmet and the impact surface on a drop test apparatus

3.2

fastening system

devices used to connect the components of the helmet

3.3

field of vision

extent of vision through the protector in the “as worn” position when placed on the appropriate headform and measured with reference to the entrance pupil of the stationary eye

3.4

goniometer

positioning device that moves the headform such that the angular rotation and movement in reference to the corneal eye point in both the horizontal and vertical directions can be recorded

3.5

helmet

device worn on the head that is intended to reduce the risk of head injury to ice hockey participants

Note 1 to entry: Helmets can include:

- a) a shock-attenuating system;
- b) a retention system;
- c) manufacturers' attachments.

3.6

helmet model

category of helmets that have the same essential characteristics

Note 1 to entry: Essential characteristics include:

- a) materials;
- b) dimensions;
- c) construction;
- d) retention system;
- e) protective padding.

3.7

helmet positioning index

HPI

vertical distance measured at the median plane, from the front edge of the helmet to the reference plane, when the helmet is placed on the reference headform

3.8

impact sites

Note 1 to entry: Impact sites are defined in relation to the headform using projected measurements.

3.8.1

prescribed impact site

crown, front, front boss, side, rear, rear boss

Note 1 to entry: See [Figure 1](#).

3.8.1.1

crown

point where the central vertical axis meets the top of the headform

3.8.1.2**front**

point on the median plane which is 50 mm above the anterior intersection with the reference plane

3.8.1.3**front boss**

point 25 mm above the reference plane and 45° in a clockwise or counter-clockwise direction about the central vertical axis

3.8.1.4**side**

point 25 mm above the reference plane on the mid-frontal plane

3.8.1.5**rear**

point at the posterior intersection of the median and reference plane

3.8.1.6**rear boss**

point on the reference plane and 135° in a clockwise or counter-clockwise direction about the central vertical axis

3.8.2**non-prescribed impact sites**

locations on or above the test line and at least one-fifth of the circumference of the headform from any prior impact site use

3.9**liner**

material inside the outer covering of the helmet, with the principal objective to absorb kinetic energy generated by an impact to the head

Note 1 to entry: This material, or part of it, helps to ensure a snug comfortable fit of the helmet on the head.

3.10**natural frequency**

frequency at which a system will tend to oscillate when displaced from its static equilibrium position

3.11**outer covering****shell**

material that gives the helmet its form

3.12**retention system**

system which secures the helmet firmly to the head by passing under the mandible in whole or in part when adjusted according to manufacturer's instructions

3.13**support assembly**

drop assembly in the monorail system minus the weight of the headform, ball arm, ball clamp, ball clamp bolts, and accelerometer

3.14**spherical impactor**

device made of low resonance material that couples mechanically with the ball arm connector of the drop assembly in place of the impact test headform and is used for system verification of the drop assembly

EXAMPLE Magnesium, aluminium alloy, or stainless steel.