

SVENSK STANDARD

SS-EN ISO 10256-2:2018



Fastställt/Approved: 2018-05-02
Utgåva/Edition: 1
Språk/Language: engelska/English
ICS: 13.340.20; 97.220.20

Skyddsutrustning för ishockeyspelare – Del 2: Huvudskydd för utespelare – Prestandakrav (ISO 10256-2:2016)

Protective equipment for use in ice hockey – Part 2: Head protection for skaters (ISO 10256-2:2016)

This preview is downloaded from www.sis.se. Buy the entire standard via <https://www.sis.se/std-80003801>

Standarder får världen att fungera

SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.

Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på www.sis.se eller ta kontakt med oss på tel 08-555 523 00.



Standards make the world go round

SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.

Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

If you want to know more about SIS, or how standards can streamline your organisation, please visit www.sis.se or contact us on phone +46 (0)8-555 523 00



Europastandarden EN ISO 10256-2:2018 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 10256-2:2018.

Denna standard ersätter SS-EN ISO 10256:2004, utgåva 1

The European Standard EN ISO 10256-2:2018 has the status of a Swedish Standard. This document contains the official version of EN ISO 10256-2:2018.

This standard supersedes the SS-EN ISO 10256:2004, edition 1

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS som även lämnar allmänna upplysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Hjälmor, SIS/TK 525.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

EN ISO 10256-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2018

ICS 97.220.20; 13.340.20

English Version

Protective equipment for use in ice hockey - Part 2: Head protection for skaters (ISO 10256-2:2016)

Équipements de protection destinés à être utilisés en hockey sur glace - Partie 2: Protections de tête pour les skateurs (ISO 10256-2:2016)

Schutzausrüstung zum Gebrauch beim Eishockey - Teil 2: Kopfschutz für Eisläufer (ISO 10256-2:2016)

This European Standard was approved by CEN on 17 September 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

| | |
|--|-------------|
| European foreword | vii |
| Introduction | viii |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions | 1 |
| 4 Requirements | 4 |
| 4.1 Innocuousness | 4 |
| 4.2 Ergonomics..... | 4 |
| 4.3 Attachments..... | 4 |
| 4.3.1 Optional devices | 4 |
| 4.3.2 Fastener components | 4 |
| 4.3.3 Eye and full-face protectors | 4 |
| 4.4 Protected area | 4 |
| 4.4.1 Minimum protected area | 4 |
| 4.4.2 Ear aperture | 4 |
| 4.4.3 Ventilation openings..... | 5 |
| 4.5 Penetration..... | 5 |
| 4.6 Shock absorbing capacity..... | 5 |
| 4.7 Retention system | 5 |
| 4.7.1 Straps..... | 5 |
| 4.7.2 Extensibility and strength | 5 |
| 4.8 Field of vision | 5 |
| 5 Test methods | 5 |
| 5.1 Sampling..... | 5 |
| 5.2 Conditioning temperatures | 5 |
| 5.3 Field of vision | 6 |
| 5.4 Helmet positioning index (HPI)..... | 6 |
| 5.5 Protected area | 6 |
| 5.6 Determination of penetration characteristics..... | 6 |
| 5.6.1 Test apparatus | 6 |
| 5.6.2 Procedure | 6 |
| 5.7 Determination of shock absorbing capacity | 7 |
| 5.7.1 Impact sites..... | 7 |
| 5.7.2 Marking impact locations on headform | 7 |
| 5.7.3 Apparatus | 7 |
| 5.7.4 Procedure | 7 |
| 5.8 Determination of retention system function | 8 |
| 5.8.1 Apparatus | 8 |
| 5.8.2 Positioning | 8 |
| 5.8.3 Extensibility and releasing force | 8 |
| 6 Test report | 8 |
| 7 Permanent markings | 8 |
| 8 Information for users | 9 |
| Annex A (normative) Impact drop test using a free-fall test apparatus with a guided carrier | 15 |
| Annex B (normative) Impact drop test using a guided monorail | 18 |
| Annex C (informative) Method for measuring field of vision | 22 |
| Bibliography | 25 |

European foreword

This document (EN ISO 10256-2:2018) has been prepared by Technical Committee ISO/TC 83 "Sports and other recreational facilities and equipment" in collaboration with Technical Committee CEN/TC 158 "Head protection" the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2018, and conflicting national standards shall be withdrawn at the latest by October 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 10256-2:2016 has been approved by CEN as EN ISO 10256-2:2018 without any modification.

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.

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

SS-EN ISO 10256-2:2018 (E)

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.