

Specification for

Helmets for alpine skiers

The European Standard EN 1077 : 1996 has the status of a British Standard

ICS 13.340.20; 97.220.20

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee PH/6, Head protection, upon which the following bodies were represented:

- Department of Transport (Transport Research Laboratory)
- Fire Brigades Union
- Headway National Head Injuries Association
- Health and Safety Executive
- Institution of Mechanical Engineers
- Safety Equipment Association

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- British Association of Canoe Trades
- British Canoe Union
- British Hanggliding and Paragliding Association
- British Microlight Aircraft Association
- British Mountaineering Council
- British Parachute Association
- British Safety Industry Federation
- British Sports and Allied Industries Federation
- Mountain Rescue Committee
- National Mountaineering Centre
- Sports Council
- University of Birmingham

This British Standard, having been prepared under the direction of the Health and Environment Sector Board, was published under the authority of the Standards Board and comes into effect on 15 December 1996

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Amendments issued since publication

Amd. No.	Date	Text affected

The following BSI references relate to the work on this standard:
Committee reference PH/6
Draft for comment 93/305616 DC

ISBN 0 580 25897 1

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National foreword

This British Standard has been prepared by Technical Committee PH/6 and is the English version of EN 1077 : 1996 *Helmets for alpine skiers*, published by the European Committee for Standardization (CEN). No current British Standard is superseded.

Cross-references

Publication referred to	Corresponding British Standard
EN 960 : 1994	BS EN 960 : 1995 <i>Headforms for use in the testing of protective helmets</i> BS 2782 <i>Methods of testing plastics</i> Part 5. <i>Optical and colour properties, weathering</i>
ISO 4892-1 : 1994	Method 540D : 1995 <i>Methods of exposure to laboratory light sources — General guidance</i>
ISO 4892-2 : 1994	Method 540E : 1995 <i>Methods of exposure to laboratory light sources — Xenon-arc sources</i>
ISO 6487 : 1987	BS AU 228 <i>Impact tests on road vehicles</i> Part 1 : 1989 <i>Specification for measurement techniques and general instrumentation</i>

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ICS 13.340.10; 97.220.00; 97.220.20

Descriptors: Sports, alpine skis, helmets, accident prevention, definitions, equipment specifications, field of visibility, shock resistance, fastenings, tests, penetration tests effectiveness, durability, marking

English version

Helmets for alpine skiers

Casques pour skieurs de ski alpin

Helme für alpine Skiläufer

This European Standard was approved by CEN on 1995-11-12. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Standard has been prepared by 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 September 1996, and conflicting standards shall be withdrawn at the latest by September 1996.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

The intention of helmets is to reduce the risk of injury to the skull and part of the head surrounded by the helmet.

The protection given by a helmet depends on the circumstances of the accident and wearing a helmet cannot always prevent death or long term disability.

A proportion of the energy of an impact is absorbed by the helmet, thereby reducing the force of the blow sustained by the head. The structure of the helmet may be damaged in absorbing this energy and any helmet that sustains a severe blow should be replaced even if damage is not apparent.

To achieve the performance of which it is capable, and to ensure stability on the head, a helmet should be as closely fitting as possible consistent with comfort. In use it is essential that the helmet is securely fastened, with any chin strap under proper tension at all times.

1 Scope

This European Standard is applicable to minimum performance requirements and tests for helmets for alpine skiers, including children and participants in competitions.

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

- construction including field of vision;
- shock absorbing properties;
- resistance to penetration;
- retention system properties;
- marking and information.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 960	<i>Headforms for use in the testing of protective helmets</i>
ISO 4892-1 : 1994	<i>Plastics — Method of exposure to laboratory light sources Part 1 : General guidance</i>
ISO 4892-2 : 1994	<i>Plastics : Method of exposure to laboratory light sources Part 2 : Xenon arc sources</i>
ISO 6487 : 1987	<i>Road vehicles — Measurement techniques in impact tests — Instrumentation</i>

3 Definitions

For the purpose of this standard the following definitions apply:

3.1 protective helmet

An item to be worn on the head, intended to absorb the energy of a foreseeable impact, thus reducing the risk of injury to the head.

3.2 shell

The outer layer which provides part of the whole general form of the helmet.

3.3 helmet type

Category of helmet which does not differ in such essential respects as the materials or dimensions or construction of the helmet, of the retention system, or of the protective padding.

NOTE. Helmet type may include a range of helmet sizes, provided that the thickness of the protective padding in each size in the range is at least equal to that in the helmet which, when subjected to the tests, satisfies the requirements of this standard.

3.4 padding

- protective padding: a material used to absorb impact energy;
- comfort padding: a liner material provided for the wearer's comfort;
- sizing padding: a liner material used for adjustment of the helmet size.

3.5 retention system

The complete assembly by means of which the helmet is maintained in position on the head, including any devices for adjustment of the system or to enhance the wearer's comfort.

3.6 chin-strap

Part of the retention system consisting of a strap that passes under the wearer's jaw to keep the helmet in position.

3.7 basic plane of the human head

A plane at the level of the external ear opening (external auditory meatus) and the lower edge of the eye sockets (orbits).

3.8 basic plane of a headform

The plane relative to the headform that corresponds to the basic plane of the human head.

3.9 reference plane

A construction plane parallel to the basic plane of the headform at a distance from it which is a function of the size of the headform.