

Specification for

Helmets for airborne sports

The European Standard EN 966:1996, with the incorporation of amendments A1:2000 and A2:2006, has the status of a British Standard

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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
- Ministry of Defence
- Royal National Life-Boat Institution
- Safety Equipment Association

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

- Association of Canoe Trades
- British Canoe Union
- British Hang-gliding and Paragliding Association
- British Microlight Aircraft Association
- British Mountaineering Council
- British Parachute Association
- British Safety Industry Federation
- Sports Council
- University of Birmingham

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National foreword

This British Standard has been prepared by Technical Committee PH/6 and is the official English language version of EN 966:1995 *Helmets for airborne sports*, including amendments A1:2000 and A2:2006, published by the European Committee for Standardization (CEN). No current British Standard is superseded.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated in the text by **A1** **A1**.

Cross-references

Attention is drawn to the fact that CEN and CENELEC Standards normally include an annex which lists normative references to international publications with their corresponding European publications. The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 21 and a back cover.

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English version

Helmets for airborne sports

Casques de sports aériens

Luftsporthelme

This European Standard was approved by CEN on 1996-03-07. Amendment A1 was approved by CEN on 2000-02-25. 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, Czech Republic, 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

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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.

Foreword to amendment A1

This amendment EN 966:1996/A1:2000 to EN 966:1996 has been prepared by Technical Committee CEN/TC 158, Head protection, the Secretariat of which is held by BSI.

This amendment to the European Standard EN 966:1996 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2000, and conflicting national standards shall be withdrawn at the latest by September 2000.

This amendment to the European Standard EN 966:1996 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.

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Foreword to amendment A2

This document (EN 966:1996/A2:2006) has been prepared by Technical Committee CEN/TC 158, “Head protection”, the secretariat of which is held by BSI.

This Amendment to the European Standard EN 966:1996 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2006, and conflicting national standards shall be withdrawn at the latest by November 2006.

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Introduction

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 needs to 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 tension at all times.

1 Scope

This European Standard specifies requirements and test methods for protective helmets used in paragliding, hang gliding and flying with ultra-light aeroplanes.

Helmets for airborne sports are indicated in this European Standard as follows:

- category HPG: Helmets for paragliding and hang gliding;
- category UL: Helmets for flying with ultra-light aeroplanes.

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

- construction including chin strap, fastening devices, field of vision, head mobility and eye protection;
- penetration resistance;
- shock-absorbing properties;
- retention system properties;
- marking and information for users.

NOTE The requirements cover both categories. Special requirements are contained in the relevant clauses.

This European Standard does not apply to other kinds of head protection used in airborne sports.

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, *Headforms for use in the testing of protective helmets.*

ISO 48921:1994, *Plastics — Methods of exposure to laboratory light sources — Part 1: General guidance.*

ISO 48922:1994, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc sources.*

ISO 6487:1987, *Road vehicles — Measurement techniques in impact tests — Instrumentation.*

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1

protective helmet

helmet primarily intended to protect the wearer's head against impact. Some helmets may provide additional protection

3.2

shell

material that provides the general outer form of the helmet

3.3

helmet type

category of helmets which does not differ in such essential respects as:

- the trade name or mark; and
- the materials or dimensions of the shell, of the retention system or of the protective padding.

However, a 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

3.4.1

protective padding

material used to absorb impact energy

3.4.2

comfort padding

liner material provided for the wearer's comfort

3.4.3

sizing padding

liner material used for adjustment of the fit of the helmet to the wearer's head

3.5

retention system

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