BRITISH STANDARD

BS EN 1731 : 1998

Mesh type eye and face protectors for industrial and non-industrial use against mechanical hazards and/or heat

The European Standard EN 1731 : 1997 with the incorporation of its amendment A1 : 1997 has the status of a British Standard

ICS 13.340.20

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee PH/2, Eye protection, to subcommittee PH/2/2, Industrial eye protectors, upon which the following bodies were represented:

Association of Consulting Scientists
British Foundry Association
British Safety Industry Federation
College of Optometrists
Electricity Association
Federation of Manufacturing Opticians
Glass and Glazing Federation
Health and Safety Executive
Institution of Mechanical Engineers
Institution of Occupational Safety and Health
Manufacturing Science Finance
Ministry of Defence
National Physical Laboratory
Royal College of Ophthalmologists
Safety Equipment Association
Safety Equipment Distributors Association
Welding Institute

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 February 1998

Amendments issued since publication

Amd. No.	Date	Text affected

The following BSI references relate to the work on this standard:
Committee reference PH/2/2
Draft for comment 94/508456 DC

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Contents

National foreword

This British Standard has been prepared by Subcommittee PH/2/2, and is the English language version of EN 1731 : 1997, *Mesh type eye and face protectors for industrial and non-industrial use against mechanical hazards and/or heat*, including its amendment A1, published by the European Committee for Standardization (CEN).

Cross-references

Publication referred to	Corresponding British Standard
EN 165 : 1995	BS EN 165 : 1996 *Personal eye-protection — Vocabulary*
EN 166 : 1995	BS EN 166 : 1996 *Personal eye-protection — Specifications*
EN 167 : 1995	BS EN 167 : 1995 *Personal eye-protection — Optical test methods*
EN 168 : 1995	BS EN 168 : 1995 *Personal eye-protection — Non-optical test methods*
EN 169 : 1992	BS EN 169 : 1992 *Specification for filters for personal eye-protection equipment used in welding and similar operations*
EN 170 : 1992	BS EN 170 : 1992 *Specification for ultraviolet filters used in personal eye-protection equipment*
EN 171 : 1992	BS EN 171 : 1992 *Specification for infrared filters used in personal eye-protection equipment*

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 8, an inside back cover and a back cover.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1731

January 1997

+ A1

December 1997

ICS 13.340.10

Descriptors: Personal protective equipment, accident prevention, eyes, safety devices, heat protection, protection against mechanical hazards, materials, design, specifications, effectiveness, tests, marking

English version

Mesh type eye and face protectors for industrial and non-industrial use against mechanical hazards and/or heat

(includes amendment A1 : 1997)

Protecteurs de l'oeil et de la face de type grillagé à usage industriel et non industriel, pour la protection contre les risques mécaniques et/ou contre la chaleur
(inclut l'amendement A1 : 1997)

Augen- und Gesichtsschutzgeräte aus Draht-oder Kunststoffgewebe für den gewerblichen und nichtgewerblichen Gebrauch zum Schutz gegen mechanische Gefährdung und/oder Hitze
(enthält Änderung A1 : 1997)

This European Standard was approved by CEN on 1996-12-19. 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

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

Ref. No. EN 1731 : 1997 + A1 : 1997 E

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 85, Eye-protective equipment, the secretariat of which is held by AFNOR.

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 July 1997, and conflicting national standards shall be withdrawn at the latest by July 1997.

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.

Annex A is informative.

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 1731 : 1997/A1 : 1997 to EN 1731 : 1997 has been prepared by Technical Committee CEN/TC 85, Eye-protective equipment, the secretariat of which is held by AFNOR.

This amendment has been prepared by the secretariat of CEN/TC 85 in agreement with the chairman of CEN/TC 85 and the convenor of working group 8 to answer to resolution BS 7/1997.

"Subject : revision of EN 1731 : 1997.

BT, having considered the request of BSI regarding the use of photographs in EN 1731 *Mesh type eye and face protectors for industrial and non-industrial use against mechanical hazards and/or heat* decided to ask CEN/TC 85 to start an immediate revision of EN 1731 with the aim either to replace the photographs with technical drawings or, should that not be possible, to delete the informative annex entirely".

This amendment to the European Standard EN 1731 : 1997 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 1998, and conflicting national standards shall be withdrawn at the latest by June 1998.

This Amendment to the European Standard EN 1731 : 1997 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EN Directive(s).

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

Contents

1 Scope

This European Standard specifies materials, design, performance requirements, test methods and marking requirements for personal mesh eye protectors against mechanical and/or thermal hazards for industrial and non-industrial use.

Such equipment includes:

a) mesh goggles and mesh spectacles;

b) mesh visors for forestry work and/or trimming or gardening or park work for combination with or without safety helmets;

c) mesh visors for combination with safety helmets or brow guards as used, for example, in steel works and foundries.

This standard is not applicable to mesh eye protectors for protection against molten metal splash, hot solid risks or electrical hazard. Mesh eye protectors for use in sports such as ice hockey and fencing are excluded from this standard.

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 165 : 1995	*Personal eye-protection — Vocabulary*
EN 166 : 1995	*Personal eye-protection — Specifications*
EN 167 : 1995	*Personal eye-protection — Optical test methods*
EN 168 : 1995	*Personal eye-protection — Non-optical test methods*
EN 169 : 1992	*Personal eye-protection — Filters for welding and related techniques — Transmittance requirements and recommended use*
EN 170 : 1992	*Personal eye-protection — Ultraviolet filters — Transmittance requirements and recommended use*
EN 171 : 1992	*Personal eye-protection — Infrared filters — Transmittance requirements and recommended use*

3 Definitions

For the purposes of this European Standard the definitions given in EN 165 : 1995 apply together with the following.

3.1 mesh

A metal mesh may be woven or perforated, a plastic mesh may be moulded, woven or perforated.

3.2 mesh type eye protectors

Either mesh spectacles, mesh goggles, mesh face screens, or mesh face screens with one or two oculars.

3.3 mesh spectacle

An eye protector with mesh oculars mounted in a spectacle type frame with or without side shield.

NOTE. Mesh spectacles are usually held in place by temples.

3.4 mesh goggle

An eye protector with mesh ocular(s) that tightly encloses the orbital area and sits on the face.

NOTE. Mesh goggles are usually held in position by a headband.

3.5 mesh face screen

A mesh type eye protector with mesh face protection that can be worn with a support directly on the head or in conjunction with a safety helmet.

3.6 mesh visor

Part of a mesh face screen covering the eye area and all or parts of the face which can be removed from the frame or housing and be replaced.

3.7 ocular area

That part of a mesh type eye protector, other than the frame, which permits vision (see **4.2.2**).

3.8 additional or alternative ocular(s)

3.8.1 *mesh face screen with additional or alternative protective ocular(s)*

A mesh face screen incorporating one or two additional or alternative protective oculars.

3.8.2 *additional ocular*

An ocular used in front of or behind the mesh ocular area to provide supplementary protection.

3.8.3 *alternative ocular*

An ocular replacing the mesh ocular area to provide specific protection.

3.9 mesh type eye protector resisting high speed particles

A mesh type eye protector which is able to withstand the impact of high speed particles. Such a mesh type eye protector can be used in applications where a risk of high speed particles impact exists together with the need for good ventilation.

3.10 mesh face screen resisting radiant heat

A mesh face screen that resists radiant heat as for example encountered in steel works, foundries and the like.

4 Basic requirements

4.1 Materials

4.1.1 *Resistance to corrosion*

No metal parts of a mesh type eye protector, including the mesh if made from metal, shall show a significant sign of corrosion when examined by a trained observer after having undergone the test for resistance to corrosion specified in clause **8** of EN 168 : 1995.

4.1.2 *Resistance to ignition*

When tested according to clause **7** of EN 168 : 1995 no part of a mesh type eye protector shall ignite or continue to glow after removal of the heated rod.

4.1.3 *Cleaning and disinfection*

All parts of a mesh type eye protector shall withstand cleaning and disinfection in accordance with the agents and procedures recommended by the manufacturer.

4.1.4 *Skin irritation*

Materials that come into contact with the wearer's skin shall not be known to be likely to cause irritation or any other adverse effect to health.

4.1.5 *Number of apertures in a mesh*

The minimum number of apertures in the mesh shall be 15 per cm^2.

4.2 Design and manufacture

4.2.1 General construction

Mesh eye protectors shall be free from projections, sharp edges or other defects which are likely to cause discomfort or injury to the wearer during use.

4.2.1.1 *Headbands and harnesses*

Headbands or head harnesses where provided and used as the principal means of support shall be at least 10 mm wide where in direct contact with the head.

4.2.1.2 *Adjustability and/or replacement of components*

Adjustable parts or components incorporated in mesh eye protectors shall be easily adjustable and, where intended to, shall be easily replaceable without the use of special tools.

4.2.1.3 *Basic dimensions of a mesh face screen*

A mesh face screen with or without ocular(s) shall be such that a rectangle with minimum dimensions of 160 mm (horizontal length) × 130 mm (vertical length) can be described in full on the surface of the face screen.

4.2.2 *Minimum dimension of ocular area(s)*

The ocular area of a mesh face screen, a mesh goggle, mesh spectacle or a mesh face screen with ocular(s) shall be such that a rectangle with minimum dimensions of 32 mm (horizontal length) × 25 mm (vertical depth) can be described in full for each eye (pupillary distance : nominally 64 mm).

4.3 Performance

4.3.1 *Luminous transmittance of the mesh ocular area*

The luminous transmission of the mesh ocular area shall be greater than 20,0 % when measured in accordance with clause **6** of EN 167 : 1995.

4.3.2 *Variations in luminous transmittance*

In accordance with **7.1.2.2.3** of EN 166 : 1995.

4.3.3 *Additional or alternative oculars*

Additional or alternative oculars fitted to a mesh type eye protector shall comply with **7.1** of EN 166 : 1995.

4.3.4 *Robustness of construction*

4.3.4.1 *Increased robustness*

The complete mesh type eye protector shall be submitted to the impact of a steel ball striking the ocular area and the lateral protection at a specified speed.

Testing in accordance with **3.2** of EN 168 : 1995.

The following defects shall not occur during testing.

a) Mesh fracture in the ocular area:

The mesh shall be considered to have fractured if the steel ball passes through the mesh or if, at any point in the ocular area, a gap or tear is produced which will allow a (300 ± 3) mm long and $(3{,}0 \pm 0{,}1)$ mm diameter steel rod, with end faces which are flat and perpendicular to its longitudinal axis, to pass through under its own weight in any orientation.

b) Ocular area deformation:

The mesh ocular area shall be considered to have been deformed when a mark appears on the white paper on the opposite side to that struck by the steel ball.

c) Failure of ocular housing, mesh face screen or frame:

An ocular housing or mesh face screen or frame shall be considered to have failed if it separates into two or more pieces, or if it is no longer capable of holding an ocular in position, or if an unbroken ocular detaches from the frame, or if the ball breaks through the housing, mesh face screen or frame.

A mesh face screen tested with an additional or alternative ocular shall be fitted with an ocular meeting the increased robustness requirements. If the use of any cover and/or backing lens is recommended by the manufacturer, the test shall be performed with a mesh face screen conforming to this recommendation.

5 Requirements for eye protectors with special characteristics

5.1 Mesh type eye protectors protecting against high speed particles

This requirement is only applicable to mesh eye protectors which comply with **7.2.2** of EN 166 : 1995.

The area of coverage of mesh face screens protecting against high speed particles shall meet the requirements given in **7.2.4**b) of EN 166 : 1995.

5.2 Mesh face screens resisting radiant heat

A mesh face screen designed to resist radiant heat shall have a reflecting outer surface (for example unpainted, uncoated wire mesh). This requirement shall be assessed by visual inspection. The diameter of the wire or the space between two adjacent holes shall be 0,2 mm minimum.

The area of coverage of these face screens shall meet the requirements given in **7.2.4**b) of EN 166 : 1995.

When tested in accordance with **6.6** of this standard, no part of the mesh type eye protector complete with additional or alternative oculars, shall ignite, melt, separate into two or more parts or continue to glow after the test. After exposure to radiant heat, the complete eye protector shall continue to meet the requirement for area of coverage, increased robustness, or if appropriate, resistance to high speed particles.

6 Test methods

6.1 Test method for resistance to corrosion of metal parts

In accordance with clause **8** of EN 168 : 1995.

6.2 Test method for resistance to ignition

In accordance with clause **7** of EN 168 : 1995.

6.3 Test method for luminous transmittance

In accordance with clause **6** of EN 167 : 1995.

6.4 Test method for increased robustness

In accordance with **3.2** of EN 168 : 1995.

6.5 Test method for resistance against high speed particles (optional)

In accordance with clause **9** of EN 168 : 1995.

6.6 Test method for resistance to radiant heat (optional)

6.6.1 *Principle*

The complete mesh face screen, with any additional or alternative oculars, is exposed to thermal radiation from a source with calibrated radiative output.

6.6.2 *Test equipment*

The test equipment consists mainly of a metallic headform and a suitable calibrated source of thermal radiation.

A typical arrangement for testing is shown in figure 1 (for general information only).

A suitable source of thermal radiation as shown schematically in figure 1 provides a thermal energy flux of 8,3 kW/m^2 ± 5 % at a distance of (175 ± 5) mm measured at the centre line. Any other suitable source of thermal radiation may be used.

Any suitable means of calibration may be used e.g. a calorimeter of known performance or a calibrated radiometer.

6.6.3 *Test conditions*

Energy flux: 8,3 kW/m^2 ± 5 % at a distance of (175 ± 5) mm, for 10 min.

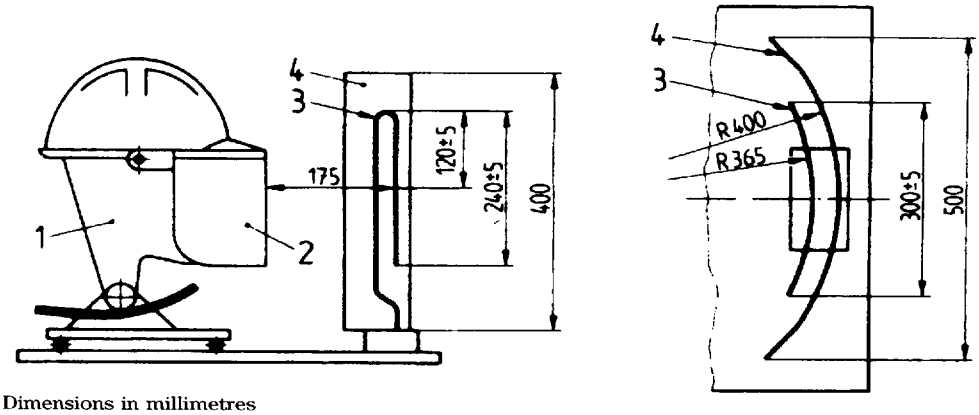
6.6.4 *Procedure*

A total of two samples shall be tested in accordance with the following procedure.

The mesh face screen is to be mounted securely on the metallic headform. Mesh face screens which are intended for mounting on a safety helmet shall be fitted to a suitable heat-resistant helmet.

The source of thermal radiation is adjusted so that the thermal energy flux measured with the calibration device is stable at 8,3 kW/m^2 ± 5 % at the distance of (175 ± 5) mm. An insulating separator is then positioned between the calibration device and the source of thermal radiation.

The calibration device is replaced by the headform on which the mesh face screen has been mounted. The head and mesh face screen are positioned such that the centre of the ocular area is at the centre line of the source of thermal radiation, at a distance of (175 ± 5) mm. The face screen shall be perpendicular to the heat flux.



Dimensions in millimetres

a) Arrangement

b) Section through the radiator

1. Metallic headform
2. Mesh face screen
3. Source of thermal radiation
4. Reflector

Figure 1. Test equipment

The insulating separator is removed, and the test is then carried out under these conditions for 10 min. Note any ignition, melting or glowing of any components of the mesh face screen including any fitted ocular.

7 Allocation of test requirements and type examination test schedule for mesh type eye protectors

The allocation of test requirements and type examination test schedule for mesh type eye protectors shall be as given in table 1.

Table 1. Allocation of test requirements and type examination test schedule for mesh type eye protectors

Test order	Requirement	Test specimen no.													Allocation of test requirements		
		1	2	3	4	5	6	7	8	9	10	11	12	13	Mesh spectacles, goggles and face screens	Mesh eye protectors against high speed particles	Mesh face screens against radiant heat
1	Marking (see clause **9**)	×													Yes	Yes	Yes
2	Instructions for use (see clause **10**)	×													Yes	Yes	Yes
3	Cleaning and disinfection (see **4.1.3**)	×													Yes	Yes	Yes
4	Number of apertures (see **4.1.5**)	×													Yes	Yes	Yes
5	Design and manufacture (see **4.2**)	×													Yes	Yes	Yes
6	Luminous transmittance (see **4.3.1**)		×												Yes	Yes	Yes
7	Variations in luminous transmittance (see **4.3.2**)			×											Yes	Yes	Yes
8	Increased robustness (see **4.3.4.1**)				×	×	×	×							Yes	Yes	Yes
9	High speed particles (see **5.1**)								×	×	×	×			No	Yes	No
10	Radiant heat (see **5.2**)												×	×	No	No	Yes
11	Corrosion (see **4.1.1**)		×												Yes	Yes	Yes
12	Ignition (see **4.1.2**)			×											Yes	Yes	Yes

x Testing to be carried out on indicated specimen.
Empty field. No testing specified.
NOTE 1. If testing requires the oculars to be mounted, then appropriate frames shall be used.
NOTE 2. For testing, frames supplied without oculars fitted shall, where necessary, be fitted with appropriate oculars.
NOTE 3. The sequence of tests 1 to 5 is not important and may be changed by the testing laboratory.
NOTE 4. A specimen on which the high speed particle test is to be conducted need not to be subjected to the increased robustness test.
NOTE 5. A specimen on which the test for resistance to radiant heat has been conducted shall be subjected to the test for area of coverage according to **7.2.4**b) of EN 166 : 1995 and for increased robustness or, if appropriate, for resistance to high speed particles in accordance with clause **5.2** of this standard.
NOTE 6. Type test evaluation shall allow no defectives, and no account shall be taken of measurement uncertainties.

8 Designation of the field of use of mesh type eye protectors

The symbols given in table 2 shall be used for the designation of the field of use of mesh type eye protectors.

Table 2. Symbols of the field of use of mesh eye protectors

Symbol	Field of use	Mechanical strength	Requirements in accordance with clause
No symbol	Basic use	No specific requirement	**4**
S	Basic use	Increased robustness	**4**
G	Radiant heat[1)]	—	**5.2**
F	High speed particles[2)]	Low energy impact	**5.1**
B		Medium energy impact	**5.1**
A		High energy impact	**5.1**

[1)] Radiant heat resistance is only provided when the frame or housing and the visor carry the symbol G.

[2)] If the symbols F, B and A are not common to both the mesh, the additional or alternative ocular and the frame then it is the lower level which shall be assigned to the complete mesh eye protector.

EXAMPLE. Designation of a mesh face screen for high speed particles and high energy impact (A): **'Mesh face screen EN 1731- A'**.

9 Marking

9.1 General

In order to be able to identify and use a mesh eye protector as intended, it shall be permanently marked to indicate its possible field of use.

The marking shall be visible when the complete mesh eye protector is assembled and shall not encroach into the minimum visible aperture (ocular area) defined in **4.2.2** of this standard.

The number of this standard shall be applied to frames and housings and shall not be applied to protective lenses.

The frame and ocular shall be marked separately. If the ocular and frame form a single unit, the complete marking shall be applied to the frame.

For examples of typical marking, refer to clause **9.2** of EN 166 : 1995.

9.2 Marking of mesh spectacle or goggle

The marking of mesh spectacles or goggles shall contain the following information:

a) identification of the manufacturer;

b) number of this standard;

c) symbol of mechanical strength according to table 2 of this standard.

9.3 Marking of mesh face screens, frames or housings

The marking of mesh face screens, frames or housings shall contain the following information:

a) identification of the manufacturer;

b) number of this standard;

c) symbol of mechanical strength according to table 2 of this standard;

d) symbol 'G' for resistance against radiant heat (if applicable).

9.4 Marking of mesh visors or additional or alternative oculars

Marking of mesh visors or additional or alternative oculars shall be in accordance with **9.2** of EN 166 : 1995.

10 Instructions for use

The manufacturer shall provide with each mesh type eye protector at least the following information:

a) name and address of manufacturer;

b) the number of this standard;

c) the mesh eye protector model identification;

d) instructions for storage, use and maintenance;

e) specific instructions for cleaning and disinfection;

f) recommendations for fields of use, protection capabilities and performance characteristics;

g) the obsolescence deadline or period of obsolescence, if applicable, for the complete mesh eye protector and/or component parts;

h) details of suitable accessories and spare parts with instructions for fitting;

i) for mesh face screens with additional or alternative protective ocular(s), a recommendation for the kind of ocular for specific applications;

j) the meaning of the different marking on the specific mesh type eye protector;

k) a warning that the mesh eye protector does not protect against molten metal splash, hot solids or electrical hazards;

l) a warning, in case the markings on the components of the eye protector do not correspond (see notes 1 and 2 of table 2);

m) a warning not to use toughened mineral filtering oculars without a backing lens in conjunction with a mesh face screen intended to protect against radiant heat;

n) a warning that a mesh face screen resisting radiant heat and marked accordingly does not protect against infrared or UV radiation.

For protection against infrared and/or UV radiation, suitable protective additional or alternative oculars shall be used complying with EN 169 : 1992, EN 170 : 1992 and/or EN 171 : 1992 respectively.

Annex A (informative)
Bibliography

EN 136 : 1989 *Respiratory protective devices — Full face masks — Requirements, testing, marking*

prEN 175 *Personal protection — Equipment for eye and face protection during welding and allied processes (excluding hoods)*

Annex ZA (normative)
Clauses of this European Standard addressing requirements or other provisions of EU Directives

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 89/686/EEC.

WARNING. Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

The following clauses of this standard are likely to support requirements of Directive 89/686/EEC, annex II.

Table ZA.1 Relationship between this standard and Directive 89/686/EEC

EC Directive 89/686/EEC, annex II		Clauses of this standard
1.1	Design principles	
1.1.1	Ergonomics	**4.2.2, 4.2.1.3, 5.1, 5.2**
1.1.2	Levels and classes of protection	
1.1.2.1	Highest level of protection possible	**4.1.5, 4.3.1**
1.1.2.2	Classes of protection appropriate to different levels of risk	
1.2	Innocuousness of PPE	
1.2.1	Absence of risk and other inherent' nuisance factors	
1.2.1.1	Suitable constituent materials	**4.1.4**
1.2.1.2	Satisfactory surface condition of all PPE parts in contact with the user	**4.2.1**
1.2.1.3	Maximum permissible user impediment	**4.1.5, 4.2.2, 4.3.1, 4.3.2**
1.3	Comfort and efficiency	
1.3.1	Adaptation of PPE to user morphology	**4.2.1.2**
1.3.2	Lightness and design strength	**4.3.4, 5.1**
1.4	Information supplied by the manufacturer	**8**
2.1	PPE incorporating adjustments systems	**4.2.1.2**
2.3	PPE for the face, eyes and respiratory tracts	**4.1.5, 4.2.2, 4.3.1, 4.3.2**
2.4	PPE subject to ageing	**4.1.1, 8**
2.9	PPE incorporating components which can be adjusted or removed by the user	**4.2.1.2**
2.12	PPE bearing one or more identification or recognition marks directly or indirectly relating to health and safety	**7.3, 8**
2.14	'Multi-risk' PPE	**4.1.5, 4.3.1, 4.3.4, 5.1, 5.2**
3.1	Protection against mechanical impact	
3.1.1	Impact caused by failing or projecting objects and collision of parts of the body with an obstacle	**4.1.5, 4.3.4, 5.1**
3.3	Protection against physical injury (abrasion, perforation, cuts and bites)	**4.1.5, 4.2.1.3, 4.3.4, 5.1**
3.6	Protection against heat and/or fire	
3.6.1	PPE constituent materials and other components	**4.1.2, 5.2, 8**
3.6.2	Complete PPE ready for use	**8**
3.9	Radiation protection	
3.9.1	Non-ionizing radiation	**8**

Compliance with the clauses of this standard provides one means of conforming with the specific essential requirements of the Directive concerned and associated EFTA regulations.

List of references

See national foreword.

BS EN 1731 : 1998

BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

Contract requirements

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the responsible technical committee, the identity of which can be found on the inside front cover. Tel: 0181 996 9000; Fax: 0181 996 7400.

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