
British Standard Specification for Pedal cyclists' helmets

Casques pour cyclistes — Spécifications

Radfahrerschutzhelme

Foreword

This British Standard has been prepared under the direction of the Personal Safety Equipment Standards Policy Committee. It specifies requirements for helmets intended for use by pedal cyclists on ordinary roads, particularly by young riders in the 5 years to 14 years age group, but which may also be suitable for use off the road. It is not intended for high-speed or long-distance cycling, or for riders taking part in competitive events. The level of protection offered is less than that given by helmets for motor-cycle riders and is intended to give protection in the kind of accident in which the rider falls onto the road without other vehicles being involved.

This edition introduces technical changes to bring the standard up-to-date but it does not reflect a full review of the standard, which will be undertaken in due course.

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.

The Technical Committee responsible for this standard recognized that ventilation is important to pedal cyclists but were unable to devise a satisfactory performance test without delaying the standard. It is intended to include performance requirements for ventilation in a future edition, and designers of helmets are advised to encourage a flow of air over the wearer's head.

This edition of the standard differs from the previous edition mainly by permitting a helmet to comply with the requirement concerning restriction of hearing either by a construction requirement or by a new performance test.

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

Amendment No. 1
published and effective from 29 November 1991
to BS 6863 : 1989

Specification for pedal cyclists' helmets

Revised text

AMD 6954
November 1991

Foreword

Delete the first paragraph and substitute the following.

'This British Standard has been prepared under the direction of the Personal Safety Equipment Standards Policy Committee. It specifies requirements for helmets intended for use by pedal cyclists of all ages, but particularly by young riders. The helmets are intended to be suitable for use on ordinary roads, but may also be suitable for use off the road. This standard does not distinguish between competitive and non-competitive riding.

This standard is not intended to provide a complete specification for helmets for high-speed or long-distance riding because, in common with all current comparable standards, it does not contain a performance requirement for ventilation, although ventilation is recommended. However, helmets suitable for these uses may still comply with this standard.

The requirements of this standard are intended for helmets that give protection in the kind of accident in which the rider falls onto the road without other vehicles being involved.'

Amendment No. 2
published and effective from 15 April 1994
to BS 6863 : 1989

Specification for pedal cyclists' helmets

Revised text

Clause 5.3.4 Durability of quick-release mechanisms

In line 4, delete 'neither be fractured nor disengaged by the final loading test in those procedures' and substitute 'then satisfy the requirements of **5.3.1**'.

AMD 8228/April 1994

Clause G.2 Procedure

Delete the final paragraph (d) and substitute '(d) Test the mechanism in accordance with the requirements of **5.3.1**'.

AMD 8228/April 1994

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Specification

1 Scope

This British Standard specifies requirements for helmets to be worn by riders, and particularly by young riders, of pedal cycles on public roads and in similar places.

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

- (a) construction including chin strap, fastening devices, field of vision and accessibility to sound;
- (b) shock absorption properties;
- (c) retention system strength;
- (d) retention system effectiveness;
- (e) chin strap durability;
- (f) buckle durability.

NOTE. The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this British Standard the following definitions apply.

2.1 helmet. Headwear primarily intended to protect against a blow to the part of the wearer's head that lies above the ears and eyes.

2.2 shell. The material that provides the general outer form of the helmet.

2.3 protective padding. Liner material provided to absorb impact energy.

2.4 retention system. The complete assembly that prevents the helmet from coming off the head.

2.5 quick-release mechanism. A system attached to, or incorporated in, the helmet that allows the retention system to be fastened and unfastened quickly.

2.6 chin strap. A strap that passes under the wearer's chin or lower-jaw and is intended to retain the helmet on the head under impact.

2.7 chin cup. A device that fits around the point of the wearer's chin, to assist the retention system or to improve comfort.

2.8 chin guard. An extension of the shell covering the lower part of the face to give protection against impacts.

2.9 basic plane (of a human head). A plane at the level of the external auditory meatus (external ear opening) and the inferior margin of the orbit (lower edge of the eye socket).

2.10 basic plane (of a headform). That plane relative to the headform that corresponds to the basic plane of the head that the headform simulates.

NOTE. A precise position for the basic plane of a headform complying with BS 6489 is given in that standard.

2.11 basic plane (of a helmet). That plane relative to the helmet that corresponds to the basic plane of the head that the helmet is intended to fit.

2.12 central vertical axis. The line relative to a headform complying with BS 6489 that lies in the plane of symmetry and normal to the reference plane (see BS 6489) at a point equidistant from the front and back of the headform in the reference plane.

2.13 central longitudinal vertical plane. The vertical plane of symmetry of a human head or headform or of a helmet as it is intended to be worn on the head.

2.14 size (of a helmet). The size of the head which the inner parts and retention system of the helmet are designed to fit.

NOTE. Several different sizes of helmet may be manufactured from one size of outer shell.

2.15 positioning index. A dimension established by the manufacturer that defines the position in which the helmet is intended to be placed on the appropriate headform for testing purposes. It is equal to the vertical distance measured in the central longitudinal vertical plane between the basic plane of the headform and the edge of the shell above the eyes.

NOTE. This index should be furnished to any person who requests the information, with respect to a helmet identified by manufacturer, model designation and size.

3 Materials

If the shell is made of a thermoplastics material or of a material which is known to be adversely affected by contact with hydrocarbons, cleaning fluids, paints, transfers or other extraneous additions, then the helmet shall carry an appropriate warning as specified in 7.3.

For those parts of the helmet coming into contact with the skin, the material used shall be known not to undergo appreciable alteration from contact with sweat or with substances likely to be found in toiletries, and materials shall not be used which are known to cause skin disorders.

4 Construction

4.1 General

The helmet shall not have an integral chin guard.

On the inside of the helmet there shall be no sharp edges, and any rigid projections inwards shall be covered with protective padding.

NOTE 1. The helmet normally consists of a shell, not necessarily of hard material, either containing or providing the necessary means of absorbing impact energy, and either fitted with or providing means for retaining the helmet on the head in an accident.

NOTE 2. A recommendation for minimum radii for thermoplastics materials is given in appendix A.

NOTE 3. The helmet may be pierced by ventilation holes.

4.2 Retention

4.2.1 General. Means shall be provided for retaining the helmet on the wearer's head. All parts of the retention system shall be permanently attached to the system on the helmet.