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Čelade za konjeniške aktivnosti

Helmets for equestrian activities

Schutzhelme für reiterliche Aktivitäten

Casques de protection pour sports hippiques

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Helmets for equestrian activities

Casques de protection pour sports hippiques

Schutzhelme für reiterliche Aktivitäten

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Contents

Page

Foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 6

4 Physical requirements 8
4.1 General 8
4.2 Materials 8
4.3 Finish and projections 9
4.4 Retention system 9

5 Performance requirement 9
5.1 Extent of coverage 9
5.2 Shock absorption 10
5.3 Penetration 10
5.4 Lateral deformation 10
5.5 Retention system strength 10
5.6 Retention system effectiveness 10
5.7 Helmet stability 10
5.8 Peak deflection 10
5.9 Field of vision 10
5.10 Practical performance 12
5.10.1 General 12
5.10.2 Requirements 12

6 Testing 12
6.1 Uncertainty of measurement 12
6.2 Visual inspection 12
6.2.1 Retention system and chin strap 13
6.2.2 Finish and projections 13
6.3 Assessment of thickness of protective padding (liner) 13
6.4 Assessment of extent of the area of protection and marking of test area 14
6.5 Headforms 15
6.6 Field of vision 16
6.7 Test sequence and time schedule 16
6.8 Inspection and determination of mass 17
6.9 Testing atmosphere and conditioning 17
6.9.1 General 17
6.9.2 High temperature conditioning 17
6.9.3 Low temperature conditioning 17
6.9.4 Artificial ageing and moisture conditioning 17
6.9.5 Water conditioning 17
6.10 Shock absorption test 18
6.10.1 General 18
6.11 Determination of resistance to penetration 19
6.11.1 General 19
6.12 Test for lateral deformation 20
6.12.1 General 20
6.12.2 Apparatus 20
6.12.3 Procedure 20
6.13 Retention system strength 21

6.13.1 General 21
6.14 Retention system effectiveness 22
6.14.1 General 22
6.15 Retention system release 22
6.15.1 Procedure 22
6.15.2 Procedure 23
6.16 Test for stability of helmet on headform 24
6.16.1 Principle 24
6.16.2 Apparatus 24
6.16.3 Test procedure 25
6.17 Test for deflection of the peak 25
6.17.1 Principle 25
6.17.2 Apparatus 25
6.17.3 Test procedure 25
6.18 Practical performance testing 25
6.18.1 Test subjects and conditions 25
6.18.2 Procedure 25

7 Marking and labelling 26
7.1 Marking 26
7.2 Information and instruction for the user 27

Annex A Significant technical changes between this European Standard and EN 1384:2012 28

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC Personal Protective Equipment 29

Bibliography 30

Foreword

This document (prEN 1384:2014) has been prepared by Technical Committee CEN/TC 158 “Head protection”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

This document 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 document.

Helmets for equestrian activities can be worn for short and long periods of time (for many hours) in cold and hot climates including activities that result in the user's body temperature increasing. Consequently, the helmet should be comfortable, light and commensurate with the risks to which the user may be exposed in order to be effective without introducing heat stress to the wearer.

Annex A provides details of significant technical changes between this European Standard and the previous edition.

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.

1 Scope

This European Standard specifies requirement for protective helmets that can have a peak, for people involved in equestrian activities.

It gives safety requirements that include methods of test and levels of performance for shock absorption, for resistance to penetration, lateral deformation and for the strength and effectiveness of the retention system and the deflection of a peak if fitted.

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

— construction, including field of vision;

— shock absorbing properties;

— resistance to penetration;

— lateral deformation ;

— retention system properties

— deflection of peak (if fitted);

— marking and information.

Helmets that are presented for testing that fall outside the size ranges for the available headforms are excluded from approval to this standard.

NOTE Performance requirements for tangential impact (rotational) are not included at this time as the test method is under development in CEN TC158/WG11 – Headforms and test methods". Once the work is concluded in WG11, this standard will be revised to take this into account.

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.

EN 960:2006, *Headforms for use in the testing of protective helmets*

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

EN 13087-1:, *Protective helmets - Test methods - Part 1: Conditions and conditioning*

EN 13087-2:, *Protective helmets - Test methods - Part 2: Shock absorption*

EN 13087-3:, *Protective helmets - Test methods - Part 3: Resistance to penetration*

EN 13087-4:, *Protective helmets - Test methods - Part 4: Retention system effectiveness*

EN 13087-5:, *Protective helmets - Test methods - Part 5: Retention system strength*

EN 13087-6:, *Protective helmets - Test methods - Part 6: Field of vision*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
shell
material that provides the hard outer case of the helmet

3.2
protective padding (liner)
padding material provided to absorb impact energy

3.3
comfort padding or size padding
padding material provided to ensure comfortable and correct fit

3.4
cradle
headband or other head fitting and those internal parts of the helmet other than the padding, which are in contact with the 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

3.6
draw-lace
lace used by a wearer for making adjustments to the fit of the cradle on the head

3.7
chin strap
part of the retention system consisting of a strap that passes under the wearer's jaw to keep the helmet in position

3.8
chin cup
cup mounted on the retention system to locate the strap on the point of the wearer's chin

3.9
helmet type
category of helmets which do not differ in such essential respects as the material density / properties, construction of the helmet, retention system or protective padding

Note 1 to entry: Difference in sizes in itself does not constitute different helmet types.

Note 2 to entry: helmet type that 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

3.10
peak
extension from the basic form of the helmet above the eyes

Note 1 to entry: Limited protection to the eyes may be provided by an extension forward from the part of the helmet which covers the head directly from above. Depending upon the construction of the helmet, such extension may be considered to be, or not to be, a peak with respect to 5.8 Peak deflection .It may be integral with, or detachable by wearer from , the helmet

Note 2 to entry: In the case of helmets whose construction incorporates a shell fitted with protective padding, the extension is considered to be a peak if it is not made from the same material as the protective padding (that is, it is made from the same material of the shell). If the extension is made from the same material as the protective padding, it is considered not be a peak.

Note 3 to entry: In the case of helmets whose construction does not incorporate a shell (that is the helmet is made from shock absorbing material), the extension is considered not to be a peak if it is integral with the part of the helmet which covers the head directly from above

3.11
area of protection
minimum area of the headform covered by the protective padding (liner)

3.12
test area
area of helmet which is subject to shock absorption and penetration tests

3.13
retention fixing point
part of the helmet to which the retention system is permanently attached

4 Physical requirements

4.1 General

The helmet may be constructed either with or without a shell, and with or without means of ventilation. If a shell is used, then protective padding shall be securely fastened to it. The helmet shall not be fitted with nor have a chin cup.

Shell ventilation is an optional feature. Vents may increase comfort but they allow for the possibility of solid objects entering through a vent and contacting the head. Rain will also enter through the vents. Within the area of protection ventilation and other apertures are permitted but these are restricted to the area above the test line.

The minimum thickness of the protective padding (liner), measured at 12 mm from the edge of the area of protection, shall not be less than the minimum thickness of the protective padding (liner) in the test area as defined in 6.4.

Consideration shall be given to the wearability (low weight , be easy to put on and take off and release of the retention system, be usable with spectacles and not significantly interfere with the ability of the user to hear) of the helmet by the widest range of users .

4.2 Materials

For those parts of the helmet coming, or that may come, into contact with the skin the material used shall not be subject to any known appreciable alteration from contact with sweat or with substances likely to be found in toiletries. Materials shall not be used which are known to cause skin disorders or other adverse effects on health.

Examples of documents, which can be presented as evidence of chemical innocuousness, are given below;

a) materials specifications;

b) safety data sheets relating to the materials;

c) information relating to the suitability of the materials for use with food, in medical devices, or other relevant applications;

d) information relating to toxicological, allergenic, carcinogenic, toxic to reproduction or mutagenic investigations on the materials;

e) information relating to ecotoxicological and other environmental investigations on the materials.

Substances recommended for cleaning, maintenance or disinfection shall have no adverse effect on the helmet and shall be not known to be likely to have any adverse effect upon the wearer, when applied in accordance with the manufacturer's instructions.

4.3 Finish and projections

The helmet shall be so designed and shaped that parts of it (for example visor, rivets, ventilators, edges, fastening device etc.) shall not injure the user.

All edges shall be smooth and rounded. There shall be no rigid projections on the inside of the helmet exceeding 2mm. Any external projection shall not exceed 5 mm, or shall be smoothly faired to the adjacent surface, except for a button on the top of the helmet and a peak.

Test according to 6.2.2.

4.4 Retention system

A retention system shall be permanently fixed to the helmet and shall incorporate a chin strap no less than 15 mm wide. The system shall be permanently fitted with fastening and adjustment devices which may be combined. The chinstrap shall be adjustable in length.

The retention system shall be freed by deliberate action only. The fastening and adjusting devices shall have no sharp edges.

NOTE 1 It is recommended that the part of the device intended to be operated by the wearer to cause the device to open is coloured orange or red.

NOTE 2 It is permissible for the system to include padding or other means of enhancing comfort to the wearer.

The chin strap (see 3.7) shall not have a chin cup.

5 Performance requirement

5.1 Extent of coverage

When the helmet is tested by the method described in 6.4 , the extent of coverage shall include zones 1,2, and 3 (Figure 2) .