SLOVENSKI STANDARD
SIST EN 1078:2012+A1:2012

01-december-2012

Čelade za kolesarje in uporabnike rolk in kotalk

Helmets for pedal cyclists and for users of skateboards and roller skates

Helme für Radfahrer und für Benutzer von Skateboards und Rollschuhen

Casques pour cyclistes et pour utilisateurs de planches à roulettes et de patins à roulettes

Ta slovenski standard je istoveten z: **EN 1078:2012+A1:2012**

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ICS:

13.340.20	Varovalna oprema za glavo	Head protective equipment
97.220.40	Oprema za športe na prostem in vodne športe	Outdoor and water sports equipment

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1078:2012+A1

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ICS 13.340.20

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English Version

Helmets for pedal cyclists and for users of skateboards and roller skates

Casques pour cyclistes et pour utilisateurs de planches à roulettes et de patins à roulettes

Helme für Radfahrer und für Benutzer von Skateboards und Rollschuhen

This European Standard was approved by CEN on 17 December 2011 and includes Amendment 1 approved by CEN on 19 July 2012.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 1078:2012+A1:2012) 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of an identical text or by endorsement, at the latest by April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document includes Amendment 1 approved by CEN on 19 July 2012.

This document supersedes ⟨A1⟩ EN 1078:2012 ⟨A1⟩.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ⟨A1⟩ ⟨A1⟩.

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).

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

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

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According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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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.

The technical committee which has prepared this European Standard realizes that it is of importance for the wearer's comfort and psychrometric performance that a helmet is ventilated. At the time the standard was prepared no method for measuring the ventilating capacity of a helmet was recognized. For that reason no requirements concerning ventilation or heat transmission have been introduced. Manufacturers of helmets are urged to design their helmets to encourage a flow of air over the wearer's head.

Pedal cyclists' helmets and helmets for users of skateboards and roller skates are fitted with a retention system to retain the helmet on the head. However, there may be a foreseeable risk that helmets of young children could become trapped and thereby cause a risk of strangulation of the child. In such cases an impact protection helmet for young children (see EN 1080) should be used.

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1 Scope

This European Standard specifies requirements and test methods for helmets worn by users of pedal cycles, skateboards and roller skates.

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

— construction, including field of vision;

— shock absorbing properties;

— retention system properties, including chin strap and fastening devices;

— marking and information.

2 Normative references

[A1] 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. [/A1]

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

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

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3 Terms and definitions

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

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3.1
protective helmet
item to be worn on the head and intended to absorb the energy of an impact, thus reducing the risk of injury to the head

3.2
helmet type
category of helmets 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

3.3
padding

3.3.1
protective padding
material used to absorb impact energy

3.3.2
comfort padding
lining material provided for the wearer's comfort

3.3.3
sizing padding
lining material used for adjustment of the helmet size

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3.4
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

3.5
chin-strap
part of the retention system consisting of a strap that passes under the wearer's jaw to keep the helmet in position

3.6
basic plane of the human head
plane at the level of the external ear opening (external auditory meatus) and the lower edge of the eye sockets (orbits)

3.7
basic plane of a headform
plane relative to the headform that corresponds to the basic plane of the human head

3.8
reference plane
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

3.9
test area
area of the helmet in which impact tests may be conducted which corresponds to the minimum protected area of the human head

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4 Requirements

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4.1 Materials

For those parts of the helmet coming into contact with the skin, the material used should be known not to undergo 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.

4.2 Construction

The helmet normally consists of a means of absorbing impact energy and means of retaining the helmet on the head in an accident.

The helmet should be durable and withstand handling. The helmet shall be so designed and shaped that parts of it (visor, rivets, ventilators, edges, fastening device and the like) are not likely to injure the user in normal use.

NOTE Helmets should:

- have low weight;
- be ventilating;
- be easy to put on and take off;
- be usable with spectacles;

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– not significantly interfere with the ability of the user to hear traffic noise.

4.3 Field of vision

When tested in accordance with 5.7 there shall be no occultation in the field of vision bounded by angles as follows (see Figure 1):

— horizontally: min. 105° from the longitudinal vertical median plane to the left and right hand sides;

— upwards: min. 25° from the reference plane;

— downwards: min. 45° from the basic plane.

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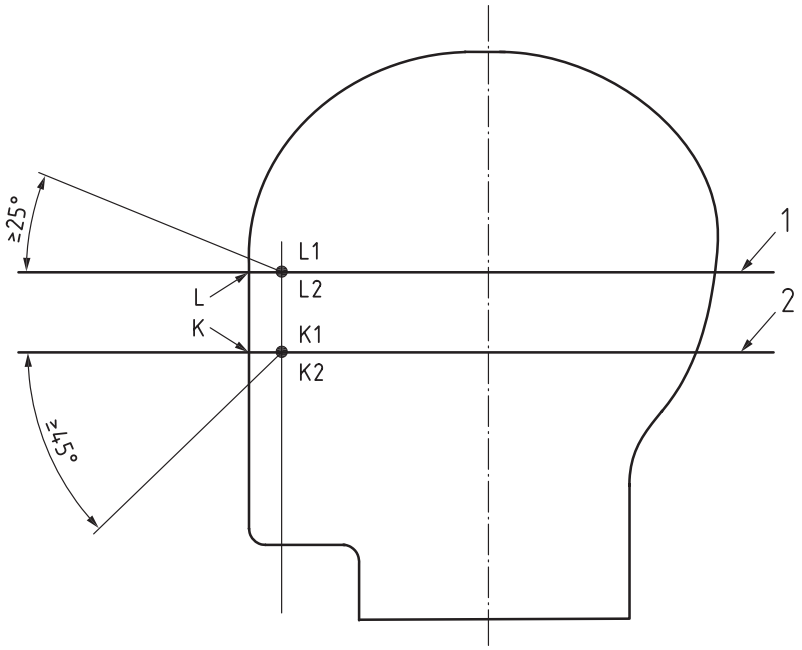
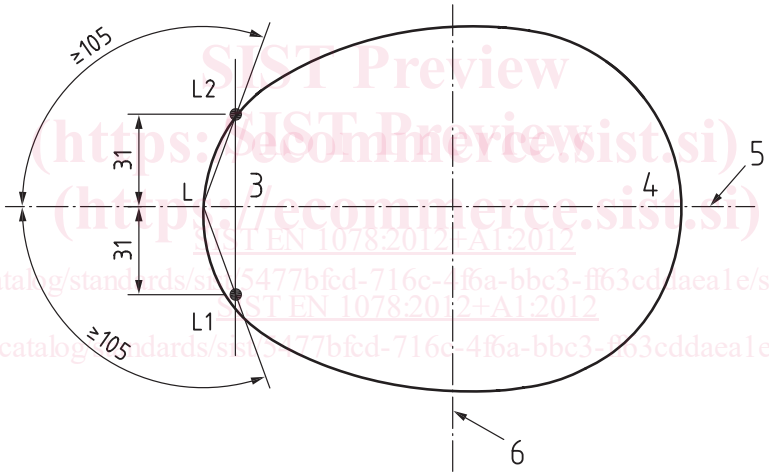
Dimensions in millimetres



a) Section of headform in longitudinal vertical plane



b) Section of headform in reference plane

Key

1 reference plane

2 basic plane

3 front

4 back

5 longitudinal vertical median plane

6 central transverse vertical plane

NOTE 1 Longitudinal vertical median plane – equivalent to EN 960:2006, 2.8 “vertical longitudinal plane”.

NOTE 2 Central transverse vertical plane – equivalent to EN 960:2006, 2.9 “vertical transverse plane”.

Figure 1 — Field of vision

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4.4 Shock absorbing capacity

The helmet shall give protection to the forehead, rear, sides, temples and crown of the head.

When tested in accordance with 5.3 and 5.4 the peak acceleration shall not, for each impact, exceed 250 *g* for the velocity of $5{,}42\ ^{+0,1}_{0}$, m/s on the flat anvil, and $4{,}57\ ^{+0,1}_{0}$ m/s on the kerbstone anvil.

NOTE These are theoretically equivalent to 1 497 mm and 1 064 mm drop heights respectively.

4.5 Durability

After being tested the helmet shall not exhibit damage that could cause significant injury to the wearer (sharp edges, points).

4.6 Retention system

4.6.1 General

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

4.6.2 Chin strap

The chin strap shall not include a chin cup. Any chin strap shall be no less than 15 mm wide. Chin straps may be fitted with means of enhancing comfort for the wearer.

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4.6.3 Fastening device

Any retention system shall be fitted with a device to adjust and maintain tension in the system. The device shall be capable of adjustment so that the buckle does not sit on the jaw bone.

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4.6.4 Colour

No part of the retention system shall be coloured green.

NOTE It is recommended that the opening mechanism be marked with red or orange colour.

4.6.5 Strength

When tested in accordance with 5.5, the dynamic extension of the retention system shall not exceed 35 mm and the residual extension shall not exceed 25 mm. For this purpose, extension includes slippage of the fastening device.

Damage to the retention system shall be accepted provided that the above requirements are met.

NOTE In this test, slippage of the fastening device can be measured and recorded separately from other contributions to the extension but this is for information only and is not subject to a separate requirement.

4.6.6 Effectiveness

When tested in accordance with 5.6 the helmet shall not come off the headform.