SLOVENSKI STANDARD
SIST EN 13634:2016

01-februar-2016

Nadomešča:
SIST EN 13634:2011

Varovalna obutev za voznike motornih koles - Zahteve in preskusne metode

Protective footwear for motorcycle riders - Requirements and test methods

Schutzschuhe für professionelle Motorradfahrer - Anforderungen und Prüfverfahren

iTeh STANDARD PREVIEW

Chaussures de protection pour motocyclistes - Exigences et méthodes d'essai

(standards.iteh.ai)

Ta slovenski standard je istoveten z: **EN 13634:2015**

SIST EN 13634:2016
https://standards.iteh.ai/catalog/standards/sist/860b5d02-c79b-46c3-b359-fb827e04deef/sist-en-13634-2016

ICS:

13.340.50	Varovanje nog in stopal	Leg and foot protection
43.140	Motorna kolesa in mopedi	Motor cycles and mopeds

SIST EN 13634:2016 **en,fr,de**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

SIST EN 13634:2016

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 13634:2016
https://standards.iteh.ai/catalog/standards/sist/860b5d02-c79b-46c3-b359-fb827e04dccf/sist-en-13634-2016

SIST EN 13634:2016

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13634

December 2015

ICS 13.340.50

Supersedes EN 13634:2010

English Version

Protective footwear for motorcycle riders - Requirements and test methods

Chaussures de protection pour motocyclistes - Exigences et méthodes d'essai

Schutzschuhe für Motorradfahrer - Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 10 October 2015.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

CEN members are the national standards bodies of 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 United Kingdom.

SIST EN 13634:2016
https://standards.iteh.ai/catalog/standards/sist/860b5d02-c79b-46c3-b359-fb827e04dccf/sist-en-13634-2016

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2015 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN 13634:2015 E

SIST EN 13634:2016

Contents

Page

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 13634:2016
https://standards.iteh.ai/catalog/standards/sist/860b5d02-c79b-46c3-b359-fb827e04dccf/sist-en-13634-2016

SIST EN 13634:2016

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 13634:2016
https://standards.iteh.ai/catalog/standards/sist/860b5d02-c79b-46c3-b359-fb827e04dcef/sist-en-13634-2016

SIST EN 13634:2016

European foreword

This document (EN 13634:2015) has been prepared by Technical Committee CEN/TC 161 “Foot and leg protectors”, 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 June 2016, and conflicting national standards shall be withdrawn at the latest by June 2016.

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 supersedes EN 13634:2010.

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.

The following significant technical changes have been introduced in comparison with the former edition EN 13634:2010:

iTeh STANDARD PREVIEW
(standards.iteh.ai)

a) The requirement concerning forward facing seams has been removed;

SIST EN 13634:2016
https://standards.iteh.ai/catalog/standards/sist/4e9b3d02-e79b-46c3-b359-1b827c04dcc1/sist-en-13634-2016

b) Clarification on the classification of the height of the upper (Table 2, Table 3 and Figure 2). A reduction in minimum upper height has been introduced for footwear having level 1 performance in upper abrasion resistance (4.4.4) and upper impact cut resistance (4.4.5);

c) The water absorption and desorption requirements for insoles and insocks have been made optional (Table 7) and a new marking is created WAD;

d) If applicable, the ankle areas shall be tested on the internal and external side of the footwear (5.1);

e) Any removable component shall be tested during the test of transverse rigidity (6.1.3);

f) Clarification on test method (6.1.5).

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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.

SIST EN 13634:2016

Introduction

Motorcyclists' footwear is intended to give a degree of mechanical protection to the foot, optionally the ankle and/or part of the shin in accidents without significantly reducing the ability of the rider to control the motorcycle and operate the foot controls. The particular hazards in motorcycle accidents are abrasion with the road surface plus impacts with the motorcycle, conflicting vehicles, road furniture and road surfaces. Road surface injuries are worse when the foot is trapped under the motorcycle during sliding impacts. The standard sets out a number of basic requirements considered essential for this type of footwear including a number of ergonomic requirements.

For a number of tests, this European Standard includes two performance levels in terms of the protection afforded. The degree of risk or hazard that a motorcyclist will face is closely linked to the type of riding and the nature of the accident. Within EN 13634:2015 'Level 1' performance is deemed as the minimum level required so that the footwear provides useful protection in an accident, and offers footwear with an optimum comfort level to suit all riding types. Where riders feel that their riding style or sport exposes them to an increased accident risk 'Level 2' has been provided, which offers increased performance. However it is likely that this higher performance level has an increased penalty for the weight and comfort so may not be acceptable to all riders.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 13634:2016
https://standards.iteh.ai/catalog/standards/sist/860b5d02-c79b-46c3-b359-fb827e04dccf/sist-en-13634-2016

SIST EN 13634:2016

1 Scope

This European Standard applies to protective footwear for motorcycle riders for use while riding motorcycles for on or off road activities. It specifies the requirements for protection, ergonomic characteristics, innocuousness, mechanical properties, marking and information for users. It also specifies the appropriate test methods.

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 1621-1, *Motorcyclists' protective clothing against mechanical impact — Part 1: Motorcyclists' limb joint impact protectors — Requirements and test methods*

EN 13595-2:2002, *Protective clothing for professional motorcycle riders — Jackets, trousers and one-piece or divided suits — Part 2: Test method for determination of impact abrasion resistance*

EN 13595-4:2002, *Protective clothing for professional motorcycle riders — Jackets, trousers and one-piece or divided suits — Part 4: Test method for determination of impact cut resistance*

EN ISO 4045, *Leather — Chemical tests — Determination of pH (ISO 4045)*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

EN ISO 11642, *Leather — Tests for colour fastness — Colour fastness to water (ISO 11642)*

EN ISO 17075:2007, *Leather — Chemical tests — Determination of chromium(VI) content (ISO 17075:2007)*

SIST EN 13634:2016
https://standards.iteh.ai/catalog/standards/sist/860b5d02-c79b-46c3-b359-fb827e04dccf/sist-en-13634-2016

EN ISO 20344:2011, *Personal protective equipment — Test methods for footwear (ISO 20344:2011)*

EN ISO 20345:2011, *Personal protective equipment — Safety footwear (ISO 20345:2011)*

ISO 4649:2010, *Rubber, vulcanized or thermoplastic — Determination of abrasion resistance using a rotating cylindrical drum device*

ISO 5423:1992, *Moulded plastics footwear — Lined or unlined polyurethane boots for general industrial use — Specification*

ISO 7000, *Graphical symbols for use on equipment — Registered symbols*

3 Terms and definitions

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

3.1
zone of specific protection
area of footwear that is intended to provide additional specific protection, and is subject to specific testing

SIST EN 13634:2016

3.2
optional requirement
additional requirement(s) claimed by the footwear manufacturer and associated with a specific marking

4 Basic requirements for motorcycle footwear

4.1 General

The minimum number of samples to be tested in order to check compliance with the requirements specified in this standard is detailed in Table 1. Unless otherwise specified, all samples shall be conditioned and tested in an environment of (23 ± 2) °C and (50 ± 5) % rh (relative humidity).

The uncertainty of measurement of each test method specified in this standard should be assessed (see Annex B).

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 13634:2016
https://standards.iteh.ai/catalog/standards/sist/860b5d02-c79b-46c3-b359-fb827e04dccf/sist-en-13634-2016

SIST EN 13634:2016

Table 1 — Minimum number of samples and test specimens and their origin

Property	Clause	Samples	Take test specimens only from footwear
Height of the upper	4.2.1	One pair in each of 3 sizes	YES
Upper/outsole bond strength	4.3	One shoe in each of 3 sizes	YES
pH value	4.4.1	One sample only of each leather	NO
Chromium VI content	4.4.2	One sample only of each leather	NO
Dye fastness	4.4.3	One sample only of each material	NO
Upper impact abrasion resistance	4.4.4	One sample from each combination of material	NO
Upper Impact cut resistance	4.4.5	One sample from each combination of material	NO
Lining Tear strength	4.5.2	One sample only of each material	NO
Lining Abrasion resistance	4.5.3	One sample only of each material	NO
Lining pH value	4.5.4	One sample only of each leather	NO
Lining Chromium VI content	4.5.5	One sample only of each leather	NO
Outsole thickness and cleat height	4.6.1	One shoe in each of 3 sizes	YES
Outsole abrasion resistance	4.6.2	One shoe in each of 3 sizes	YES
Outsole hydrolysis	4.6.3	One shoe in each of 3 sizes	YES
Outsole interlayer bond strength	4.6.4	One shoe in each of 3 sizes	YES
Ergonomics	4.7	One pair in each of 3 sizes	YES
Transverse rigidity of the whole footwear	4.8	One pair in each of 3 sizes	YES
Impact energy protection ankle / shin	5.1	One pair in each of 3 sizes	YES
Water resistance	5.2	3 pair of shoes (minimum of 2 different sizes)	YES
Resistance to fuel oil of the outsole	5.3	One shoe in each of 3 sizes	YES
Slip resistance of outsoles	5.4	One shoe in each of 3 sizes	YES
Permeable uppers	5.5	One sample only of each material	YES
Insole and Insocks	5.6	One sample only	NO
NOTE 3 Sizes = 1 pair in the smallest size + 1 pair in the largest size + 1 pair from the middle of the size range.			

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 13634:2016
https://standards.iteh.ai/catalog/standards/sist/860b5d02-c79b-46c3-b359-fb827e04dcef/sist-en-13634-2016

4.2 Design

4.2.1 Height of upper

The height of the upper for level 1 and 2 performance footwear are given in Table 2 and Table 3.

SIST EN 13634:2016

Table 2 — Minimum height of upper

Footwear size		H2 (Figure 1) in mm	H1 (Figure 1) in mm
Paris Point	**UK**		
36 and below	Up to 3½	103	64
37 and 38	4 to 5	105	66
39 and 40	5½ to 6½	109	68
41 and 42	7 to 8	113	70
43 and 44	8½ to 10	117	72
45 and above	10½ and above	121	73

Table 3 — Minimum height of high upper

Footwear size		H2 (Figure 1) in mm
Paris Point	**UK**	
36 and below	Up to 3½	162
37 and 38	4 to 5	165
39 and 40	5½ to 6½	172
41 and 42	7 to 8	178
43 and 44	8½ to 10	185
45 and above	10½ and above	192

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 13634:2016
https://standards.iteh.ai/catalog/standards/sist/860b5d02-c79b-46c3-b359-fb827c04dcef/sist-en-13634-2016

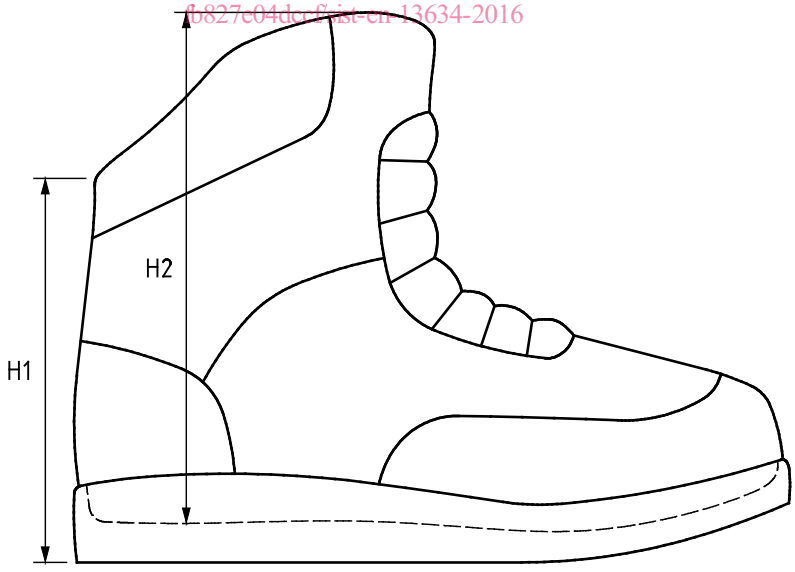

Figure 1 — Footwear minimum upper height definition of H1 and H2

4.2.2 Whole upper

Upper material shall meet the requirements of 4.4.

SIST EN 13634:2016

4.3 Whole footwear

When footwear is tested in accordance with the method specified in EN ISO 20344:2011, 5.2, the bond strength shall be not less than 4,0 N/mm unless there is tearing of the sole material in which case the bond strength shall be not less than 3,0 N/mm.

4.4 Uppers

4.4.1 pH value

When leathers are tested in accordance with EN ISO 4045, the pH value shall be not less than 3,2 and, if the pH is less than 4, the difference figure shall be less than 0,7. All individual leathers shall be assessed.

4.4.2 Chromium VI content

The quantity of Chromium VI in footwear containing leather shall not exceed 3,0 mg/kg when determined according to the test method specified in EN ISO 17075:2007.

If the footwear includes different types of leather, whether in contact with the skin or not, each leather type shall be tested separately and comply with the above requirement. One sample shall be taken from different items of footwear for each leather type.

4.4.3 Colour fastness

Footwear shall not be manufactured from material containing dyes which will readily migrate when it becomes wet with water. When any inner surfaces of the upper that will be adjacent to the wearers foot or hose (unnecessary if not coloured or if the footwear has a lining, in this case apply 4.5.6) are tested in accordance with EN ISO 11642, the change in colour of any component of the multifibre fabric shall be not worse than Grey Scale rating 3.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 13634:2016
https://standards.iteh.ai/catalog/standards/sist/860b5d02-c79b-46c3-b359-fb827e04dccf/sist-en-13634-2016

4.4.4 Abrasion resistance

When the full thickness of the upper (i.e. upper + lining) is tested in accordance with the procedure in EN 13595-2:2002 (3 test pieces from each combination of material), the abrasion resistance shall be classified as in Table 4. All material type combinations shall be tested and the upper classified on the lowest result (see Table 4):

Table 4 — Requirements for upper resistance to abrasion

	Minimum abrasion resistance (in second)	
Areas (see Figure 2 and Table 6)	**Level 1**	**Level 2**
A	1,5 s	2,5 s
B	5 s	12 s
Height of the upper	At least the value given in Table 2	At least the value given in Table 3

Table 5 — Dimensions for Impact Zones and Material Areas shown in Figure 2 (Dimensions in millimetres)

Size (Paris Points)	Size (English)	C	D	E	r	F	G
		min.	min.	min.	max.	min.	max.
38 and below	5 and below	70	45	80	17	40	120
39 to 42	5,5 to 8	75	50	90	19	50	125
43 and above	8,5 and above	80	55	95	21	55	130