



SLOVENSKI STANDARD
oSIST prEN 13634:2017
01-maj-2017

Varovalna obutev za voznike motornih koles - Zahteve in preskusne metode

Protective footwear for motorcycle riders - Requirements and test methods

Schutzschuhe für Motorradfahrer - Anforderungen und Prüfverfahren

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

Ta slovenski standard je istoveten z: prEN 13634

ICS:

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

oSIST prEN 13634:2017

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 13634

March 2017

ICS 13.340.50

Will supersede EN 13634:2015

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 draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 161.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

<https://standards.iteh.ai/catalog/standards/sist/77831f64-7f5e-475d-9c89-8c626a3767b6/sist-en-13634-2018>



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

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

Contents

Page

European foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 Basic requirements for motorcycle footwear	7
4.1 General	7
4.2 Design	7
4.2.1 Height of upper	7
4.2.2 Whole upper.....	10
4.3 Whole footwear.....	10
4.3.1 bond strength	10
4.3.2 Innocuousness.....	10
4.4 Uppers	10
4.4.1 pH value	10
4.4.2 Chromium VI content.....	10
4.4.3 Colour fastness.....	10
4.4.4 Impact Abrasion resistance.....	10
4.4.5 Impact cut resistance	12
4.5 Linings	13
4.5.1 General	13
4.5.2 Tear strength	13
4.5.3 Abrasion resistance.....	13
4.5.4 pH value	13
4.5.5 Chromium VI content.....	13
4.5.6 Colour fastness.....	13
4.6 Outsoles	14
4.6.1 Thickness and cleat height.....	14
4.6.2 Abrasion resistance.....	15
4.6.3 Hydrolysis	15
4.6.4 Interlayer bond strength	15
4.7 Ergonomics.....	15
4.8 Transverse rigidity of the whole footwear	15
4.9 Insole construction	15
4.10 Insole and insock.....	16
4.10.1 General.....	16
4.10.2 Abrasion resistance.....	16
4.10.3 pH value	18
4.10.4 Chromium VI content.....	18
5 Optional requirements.....	18
5.1 Impact protection to the ankle and/or part of the shin	18
5.2 Resistance to water penetration.....	18

5.3	Resistance to fuel oil of outsole	18
5.4	Slip resistance of outsole.....	18
5.5	Permeable uppers.....	19
5.6	Insole/Insocks, Water absorption and desorption.....	19
6	Test methods	19
6.1	Determination of the transverse rigidity of the footwear.....	19
6.1.1	Principle	19
6.1.2	Apparatus.....	19
6.1.3	Test piece	19
6.1.4	Preparation of the test piece.....	19
6.1.5	Test procedure.....	19
6.2	Impact energy protection of ankle and shin	20
6.2.1	Principle	20
6.2.2	Apparatus.....	20
6.2.3	Test piece	21
6.2.4	Zones of protection.....	21
6.2.5	Procedure	22
7	Marking.....	22
8	Wearer information and instructions for use	24
	Annex A (normative) Ergonomic and size testing	25
A.1	Principle	25
A.2	Assessors.....	25
A.3	Procedure for footwear size verification	25
A.4	Procedure for ergonomic evaluation.....	25
	Annexe ZA (informative) Relationship between this European Standard and the essential requirements of EU Directive 89/686/EEC Personal Protective Equipment aimed to be covered.....	27
	Bibliography.....	29

<https://standards.iteh.ai/catalog/standards/sist/77831f64-7f5e-475d-9c89-8c626a3767b6/sist-en-13634-2018>

European foreword

This document (prEN 13634:2017) has been prepared by Technical Committee CEN/TC 161 “Foot and leg protectors”, the secretariat of which is held by BSI.

This document will be submitted to the enquiry.

This document will supersede EN 13634:2015.

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 13634:2015:

- a) the requirement for an overall performance level has been removed and the associated user information requirement amended accordingly;
- b) the marking requirement has been changed with an additional mandatory marking number for the upper height;
- c) Table 3 has been revised to include an additional column for H1 requirements;
- d) the sampling requirements have been clarified in 4.4.4 and 4.4.5;
- e) Annex B (informative) has been replaced by a note in 4.1;
- f) clarification of the “assessor” has been included in Annex A.

<https://standards.iteh.ai/catalog/standards/sist/77831f64-7f5e-475d-9c89-8c626a3767b6/sist-en-13634-2018>

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.

This European Standard includes several properties which have two performance levels in terms of the protection afforded. These cover the degree of risk or hazard that a motorcyclist will face in terms of the type of riding and the nature of the accident. Where riders feel that their riding style or sport exposes them to an increased accident risk 'Level 2' of each of these performance features 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 Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN 13634:2018](https://standards.iteh.ai/catalog/standards/sist/77831f64-7f5e-475d-9c89-8c626a3767b6/sist-en-13634-2018)

<https://standards.iteh.ai/catalog/standards/sist/77831f64-7f5e-475d-9c89-8c626a3767b6/sist-en-13634-2018>

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)*

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)*

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*

3 Terms and definitions

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

3.1

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 $(23 \pm 2) ^\circ\text{C}$ and $(50 \pm 5) \% \text{ rh}$ (relative humidity).

This standard defines 4 specific properties for motorcycle footwear with 2 possible performance level (height of the upper, impact abrasion, impact cut, transverse rigidity). To comply with the requirement of prEN 13634:2017, the motorcycle footwear shall achieved at least performance level 1 in all of 4 properties.

For each of the required measurements performed in accordance with this standard, a corresponding estimate of the uncertainty of measurement should be evaluated. One of the following approaches should be used:

- - a statistical method, e.g. that given in ISO 5725-2 [2];
- - a mathematical method, e.g. that given in ISO/IEC Guide 98-3 [3];
- - uncertainty and conformity assessment as given in ISO/IEC Guide 98-4 [4];

- - JCGM 100:2008[1].

4.2 Design

4.2.1 Height of upper

All footwear shall be classified as either performance level 1 or performance level 2:

Performance level 1:

Footwear shall meet the minimum upper height requirements in accordance with Table 2.

Performance level 2:

Footwear shall meet the minimum upper height requirements in accordance with Table 3.

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

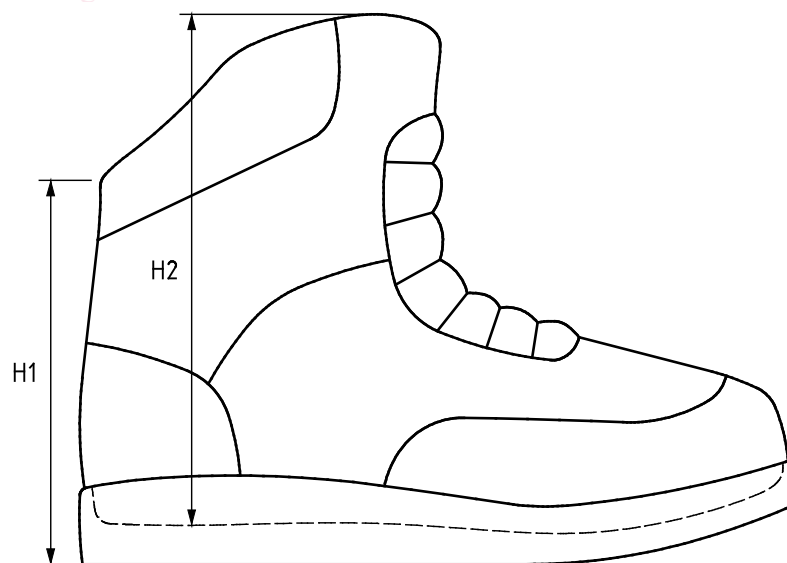
Property	Clause	Samples	Take test specimens only from footwear
Height of the upper	4.2.1	One pair in each of 3 sizes	YES
Upper/outsole bond strength	4.3	One shoe in each of 3 sizes	YES
pH value	4.4.1	One sample only of each leather	NO
Chromium VI content	4.4.2	One sample only of each leather	NO
Dye fastness	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.			

Table 2 — Minimum height of upper of performance level 1

Footwear size		H2 (Figure 1) in mm	H1 (Figure 1) in mm
Paris Point	UK		
36 and below	Up to 31/2	103	64
37 and 38	4 to 5	105	66
39 and 40	5 1/2 to 6 1/2	109	68
41 and 42	7 to 8	113	70
43 and 44	8 1/2 to 10	117	72
45 and above	10 1/2 and above	121	73

Table 3 — Minimum height of upper of performance level 2

Footwear size		H2 (Figure 1) in mm	H1 (Figure 1) in mm
Paris Point	UK		
36 and below	Up to 31/2	162	113
37 and 38	4 to 5	165	115
39 and 40	5 1/2 to 6 1/2	172	119
41 and 42	7 to 8	178	123
43 and 44	8 1/2 to 10	185	127
45 and above	10 1/2 and above	192	131

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