



SLOVENSKI STANDARD

SIST EN 13061:2009

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Nadomešča:
SIST EN 13061:2002

Varovalna obleka - Ščitniki goleni za nogometaše nogometnih zvez - Zahteve in preskusne metode

Protective clothing - Shin guards for association football players - Requirements and test methods

Schutzkleidung - Schienbeinschützer für Fußballspieler - Anforderungen und Prüfverfahren

Vêtements de protection - Protège-tibias pour joueurs de football - Exigences et méthodes d'essai

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97.220.40	Oprema za športe na prostem in vodne športe	Outdoor and water sports equipment

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EUROPEAN STANDARD
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English Version

**Protective clothing - Shin guards for association football players
- Requirements and test methods**

Vêtements de protection - Protège-tibias pour joueurs de
football - Exigences et méthodes d'essai

Schutzkleidung - Schienbeinschützer für Fußballspieler -
Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 8 August 2009.

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 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 Management Centre has the same status as the official versions.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 13061:2009) has been prepared by Technical Committee CEN/TC 162 “Protective clothing including hand and arm protection and lifejackets”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by March 2010, and conflicting national standards shall be withdrawn at the latest by March 2010.

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 13061:2001.

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 89/686/EEC.

For relationship with EU Directive 89/686/EEC, see informative Annex ZA, which is an integral part of this document.

Annex A provides details of significant technical changes between this European Standard and the previous edition EN 13061:2001.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

Association football by virtue of being a body contact sport presents a number of hazards which can cause injuries. Shin guards cannot always prevent serious injuries but are intended to significantly reduce the severity of laceration, contusion and puncture caused by impacts.

Shin guards intended for protection in association football can be used in other sports where appropriate, and where the rules of the sport permit. However, the protection provided in such other sports cannot be claimed to be adequate on the basis of conformance to this European Standard without supporting information concerning the sport in which the shin guards are to be used.

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1 Scope

This European Standard specifies the general requirements for the ergonomics, innocuousness, sizing, coverage, performance, and cleaning of association football players' shin guards. Test methods are described and performance levels are defined. Requirements for the marking of shin guards and the information to be supplied with them are given.

2 Terms and definitions

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

2.1

contusion or bruise

injury usually caused by a blunt impact in which the skin is not broken. Underlying soft tissue is damaged by compression and by shearing forces. Fine blood vessels are damaged leading to bleeding, discoloration and swelling

2.2

laceration

irregular torn injury through the skin

2.3

puncture

wound in which a penetrating object makes a discrete hole through the skin which more or less closes after withdrawal of the object

2.4

association football

game of football in which the ball is not picked up or carried by field players, and in which the rules for tackling should limit the severity of body blows

2.5

internal ridges

raised area of the shell material which is directed towards the user's leg. A ridge is a linear feature that has a top width of less than 5 mm or an area feature with a top area of less than 25 mm²

3 Requirements

3.1 General, including innocuousness

Shin guards for association football players shall meet a general requirement that they are safe to use and fit for their purpose, and the following specific requirements:

Construction materials or their derivatives shall not harm those coming into contact with them.

NOTE Information on the identification and classification of such substances can be found in the Directive 67/548/EEC (classification, packaging and labelling of dangerous substances) [1] as well as in the Regulation (EC) no.1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) [2].

The manufacturer shall list in the information supplied by the manufacturer the substances used for the main components of the product.

There shall not be such hard or sharp edges, seams, buckles or other items on the surfaces of the product that can harm the user or other players during normal use, when tested according to 4.4.1.

If there are ridges that can be felt with the fingers on the inside of the shin guard, they shall be tested according to 4.4.2.

If there are ridges higher than 1 mm on the outer surface of the shin guard, they shall be tested according to 4.4.3. The shin guard does only perform this requirement, if the end points of the arc of the appropriate gauge touch the surface of the shin guard at all positions tested as described in 4.4.3.2 and in all orientations of the gauge.

3.2 Ergonomics

Shin guards for association football players shall be so designed that in the foreseeable conditions of use for which they are intended the user can perform the typical playing movements, e.g. running, jumping, flexing the foot, without being hindered. If restriction or severe discomfort is reported, the product fails. Test method, see 4.5.

3.3 Sizing

Shin guards for association football players shall be marked with their size. The size marking shall be the range of body height of players that the shin guard is designed to fit.

3.4 Restraint

Shin guards for association football players shall be designed so that they should remain in place during normal play and during impacts. The restraint system recommended by the manufacturer or his authorised representative established in the community shall be tested in accordance with 4.6. On release of the force, the displacement of the shin guard from its initial position shall be less than 15 mm or less than 15 % of the linear dimension of the test area measured in line with the force applied, if this is greater than 15 mm.

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3.5 Stud impact resistance

Shin guards for association football players shall resist impacts by a metal stud 10 mm in diameter when tested according to 4.7.1 and 4.7.2. The inner surface of the shin guards tested shall not be pervasively torn or being perforated. No hard material shall shatter or give rise to potentially injurious fragments. When tested according to 4.7.2, the stud shall be stopped less than 25 mm below the zero line.

3.6 Blunt impact performance

When tested according to 4.8, the transmitted force of the three single impacts to the same point on three shin guards shall not exceed 2,0 kN in the central or lateral test areas.

4 Test methods

4.1 General

Confirm by reference to appropriate documentation, e.g. document of compliance, test reports, and by measurement, visual inspection and tactile examination of the shin guard, that it meets the requirements of 3.1.

Measuring instruments unless otherwise specified shall be accurate to $\pm 2\%$ of the pass/fail level of the characteristic being measured.

For each of the required sequences of measurements performed in accordance with this standard, a corresponding estimate of the uncertainty of the final result shall be determined. The uncertainty of

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measurement shall be expressed in the form $\pm X$. It shall be used in determining whether a "Pass" performance has been achieved. If the final result minus X is below the pass level when the requirement that a certain value shall be exceeded, the sample shall be deemed to have failed.

NOTE It is anticipated that values of uncertainty of measurement will be usually between 2 % and 5 % of the measured value for force and length measurements.

4.2 Sampling and conditioning of the test samples

Sufficient pairs of new, unused shin guards shall be supplied to execute all the tests required by this Standard. At least one sample of each size to be placed on the market shall be included, complete with the labels and information supplied by the manufacturer that will be supplied with the product.

The construction of all sizes shall be checked to ensure that they are identical apart from areal dimensions, and that these are in the proportion to the sizes marked on the shin guards. If the construction of all sizes is identical, at least two sizes shall be subjected to mechanical testing. If differences in construction are apparent, all sizes shall be tested.

If a specific test cannot be executed because integrated straps, socks or accessories interfere with the testing procedure, these straps, socks or accessories shall be cut off. However, no parts of the test area shall be cut off.

Before testing all shin guards shall be cleaned five times according to the manufacturer's instructions in the information supplied by the manufacturer.

Test specimens shall be conditioned at a temperature of $(20 \pm 2) ^\circ\text{C}$ and at a relative humidity of $(65 \pm 5) \%$ for at least 48 h before testing and the tests shall be carried out in the same environment or within 10 min of removal from that environment.

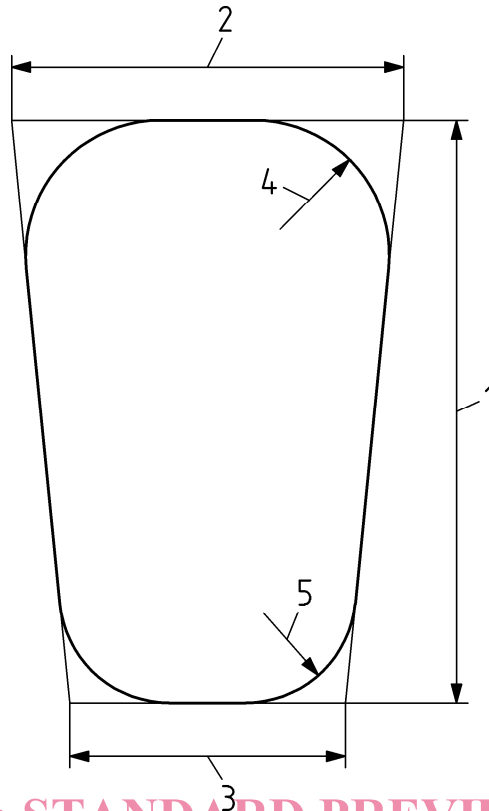
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4.3 Test area marking

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The total test area is formed by a central test area and a lateral test area. The lateral test area is a border area of 15 mm constant width surrounding the central test area.

The total test area shall be marked on a shin guard in the following way: Mark the centre line and the top line of the test area on the surface of the shin guard according to the information given in the information supplied by the manufacturer. Cut a test area template from a dimensionally stable sheet material with the calculated dimensions given by Figure 1 and Table 1 with a limit deviation of ± 1 mm for all dimensions. Position the template on the shin guard, so that the midpoint of the top edge of the template coincides with the intersection of the top and centre lines drawn on the shin guard and that the midpoint of the bottom edge of the template lines up with the centre line drawn on the shin guard. Trace around the template onto the shin guard.

**Key**

- 1 height
- 2 width at the top
- 3 width at the distance 1 from the top of the protective area
- 4 radius of curvature of an upper corner
- 5 radius of curvature of a lower corner

Figure 1 — A plan diagram of the test area of a shin guard**Table 1 — Dimensions of the template for the total test area**

	1	2	3	4	5
Dimension expressed as the percentage of the tallest wearer's height	9,5	6,4	4,5	2,2	0,9

The central test area shall be marked by using a second smaller template. This template shall be placed central on the total test area and its outline traced onto the shin guard.

4.4 Innocuousness**4.4.1 Edges, seams and buckles**

The shin guards shall be examined visually and by hand to locate any hard or sharp edges, seams or buckles that might injure the user or another player during normal use. The shin guards meets the requirements of 3.1 if none of these structures are observed or felt. If such structures are detected, they shall be considered internal or external ridges according to 4.4.2 or 4.4.3 and shall be tested accordingly.