SLOVENSKI STANDARD

SIST EN 14837:2006

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Podloge za športne dejavnosti - Ugotavljanje odpornosti proti zdrsu

Surfaces for sports areas - Determination of slip resistance

Sportböden - Bestimmung der Rutschfestigkeit

Sols sportifs - Détermination de la glissance

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Surfaces for sports areas - Determination of slip resistance

Sols sportifs - Détermination de la glissance

Sportböden - Bestimmung der Rutschfestigkeit

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Contents

Page

Foreword

This document (EN 14837:2006) has been prepared by CEN /TC 217, "Surfaces for sports areas", 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of an identical text or by endorsement, at the latest by November 2006, and conflicting national standards shall be withdrawn at the latest by November 2006.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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 United Kingdom.

1 Scope

This European Standard specifies a method for the determination of the slip resistance of a sports surface in relation to a studded or smooth soled sports shoe.

2 Normative reference

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4662, *Rubber – Determination of rebound resilience of vulcanizates.*

3 Terms and definitions

For the purposes of this document, the following term and definition applies.

3.1
slip resistance
calculated value from the reduction of the height of rise of a pendulum as a result of the friction between the profile and sports surface using correction factors

4 Principle

A free falling weight covered with a rubber or plastic shoe profile (studded or smooth) rotates around a horizontal axis (pendulum). During its circular course, the profile is dragged over the sports surface and is slowed down by the friction between the shoe profile and the test surface.

5 Apparatus

5.1 Slip resistance tester (see Figure 1), comprising:

— pendulum, having a length (axis to shoe profile) of 340 mm ± 3 mm;

— falling weight, having a mass of 1 600 g ± 50 g (including pendulum arm, metal profile holder and shoe profile);

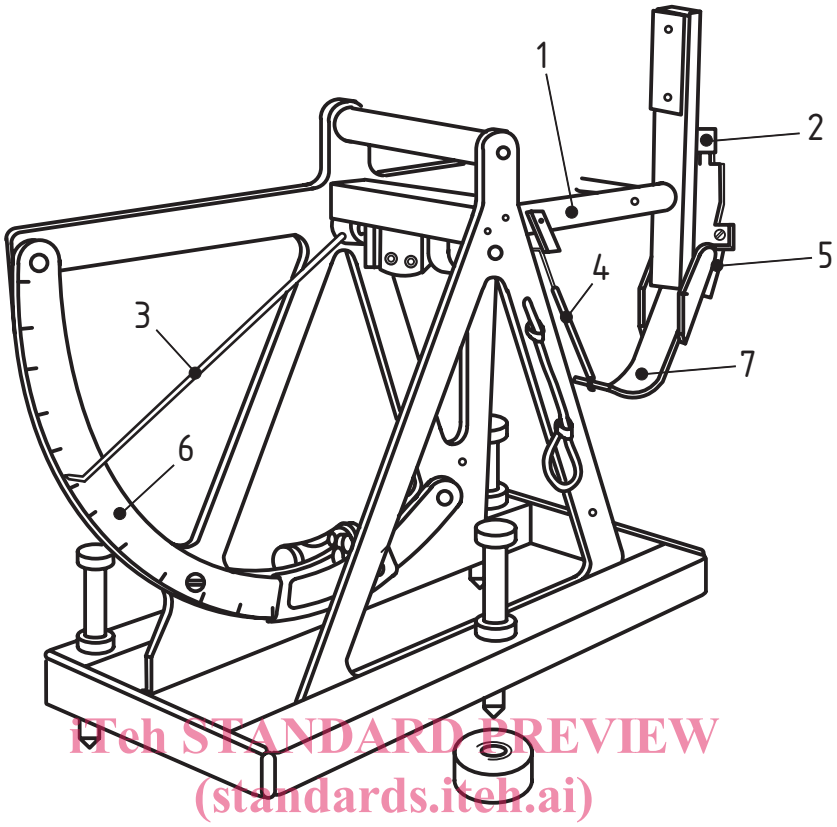
— profile holder, with a sharp pointer to adjust the pressure on the profile;

— spring, having a K-value of 0,8 N/mm ± 0,05 N/mm, to adjust the pressure of the shoe profile on the test piece;

— frame equipped with a device to hold the pendulum horizontal prior to the start of the test and to release the pendulum at the start of the test;

— scale, with a pointer that records the maximum value achieved.

On the lower part of the frame there shall be three grooves, A1 and A2 for use when adjusting the pendulum and B (see Figure 2), at which the pendulum stops when calibrated using the calibration surface. There shall be a further groove, C (see Figure 3), on the lower part of the pendulum.



Key

1	Pendulum	5	Shoe profile
2	Groove C	6	Scale
3	Needle	7	Metal profile holder
4	Spring	8	Test piece

Figure 1 — Slip resistance tester

NOTE The apparatus specified is commonly known as the Leroux slip resistance tester.

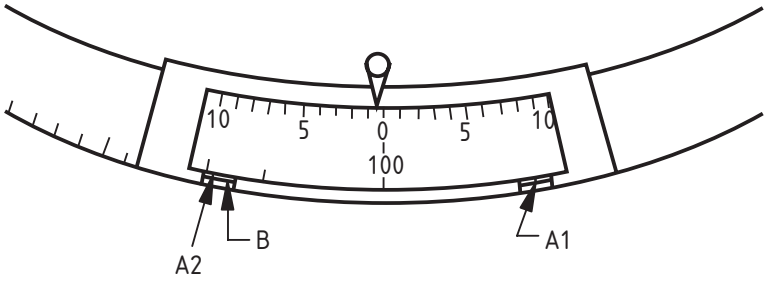
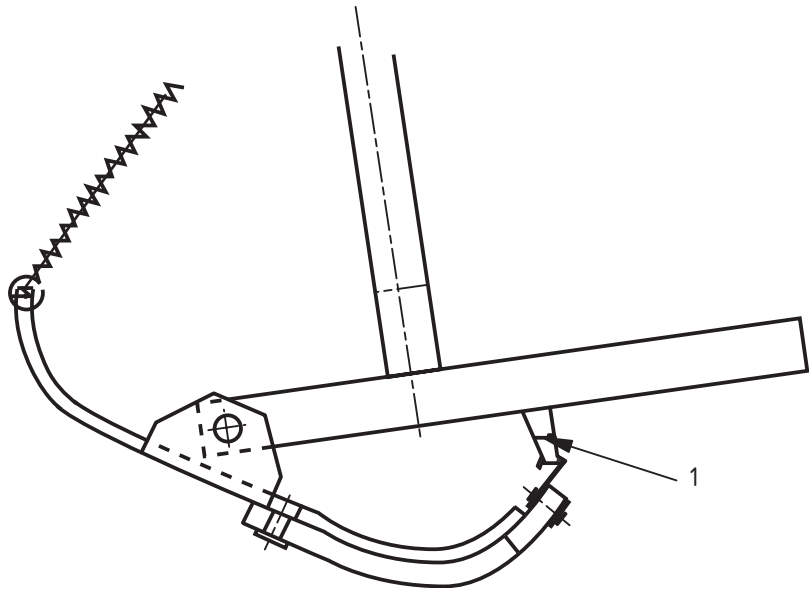


Figure 2 — Location of grooves A1, A2 and B



Key
1 Groove C

Figure 3 — Location of groove C

5.2 Test soles

5.2.1 *Smooth standard shoe profile*, made of rubber, with properties and dimensions as given in Table 1.

Table 1 — Dimensions and properties of smooth standard sole profile

Property		Value
Shore A hardness		58° ± 3°
Width		30 mm ± 2 mm
Length		120 mm ± 5 mm
Thickness		9,5 mm + 0,5 mm/-1,5 mm
Resilience of rubber [a] (± 3 %) when tested in accordance with ISO 4662 at temperatures of:	0 ºC	16 %
	10 ºC	22 %
	20 ºC	32 %
	30 ºC	35 %
	40 ºC	37 %

[a] Commonly referred to as the Lüpke resilience.

5.2.2 *Multi-studded rubber profile*, made of neoprene rubber, with properties and dimensions as given in Table 2, distributed as shown in Figure 4.

NOTE This type of profile is generally used on non-filled and sand filled/dressed synthetic turfs.