



SLOVENSKI STANDARD
SIST EN 15306:2007

01-junij-2007

Podloge za zunanje športne dejavnosti – Izpostavljenost umetne travnate podloge simulirani obrabi

Surfaces for outdoor sports areas - Exposure of synthetic turf to simulated wear

Sportböden für den Außenbereich - Simulierter Verschleiß von Kunststoffrasenflächen

Sols sportifs d'extérieur - Exposition du gazon synthétique à l'usure simulée

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Ta slovenski standard je istoveten z: EN 15306:2007

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ICS:

97.220.10 Športni objekti Sports facilities

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ICS 97.220.10

English Version

Surfaces for outdoor sports areas - Exposure of synthetic turf to simulated wear

Sols sportifs d'extérieur - Exposition du gazon synthétique à l'usure simulée

Sportböden für den Außenbereich - Simulierter Verschleiß von Kunststoffrasenflächen

This European Standard was approved by CEN on 10 February 2007.

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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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Foreword

This document (EN 15306:2007) has been prepared by Technical Committee 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of an identical text or by endorsement, at the latest by September 2007, and conflicting national standards shall be withdrawn at the latest by September 2007.

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 United Kingdom.

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1 Scope

This European Standard specifies a method for conditioning synthetic turf and needle-punch surfaces by simulating interaction between a sports shoe and sports surface, to allow changes in appearance and to allow sports functional characteristics to be measured.

NOTE The method specified is commonly known as the Lisport method.

2 Principle

A test piece is laid on a metal support.

Two cylinders equipped with studs move linearly along the surface of the test piece. The two cylinders roll on the surface and a mechanical system between the cylinders causes a sliding movement of one of the cylinders. Depending on the configuration of the machine, the support might have a movement transverse to the linear movement of the cylinders.

3 Apparatus

3.1 Wear simulator

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Comprised of two cylinders, each having a length of at least 300 mm and a diameter without any test profile of (118 ± 5) mm (see Figure 1). One cylinder shall rotate (40 ± 2) % faster than the other. The linear speed for each cycle of movement, to and fro, shall be $(0,25 \pm 0,05)$ m/s. A mechanical system to count the number of cycles shall be provided. The wear simulator shall be arranged so that interrupted movement, i.e. the cylinders stop rotating, slip and then start rotating again (slip stick), is avoided. To avoid studs continually impacting the same spots, free movement of the cylinders shall occur at the end of a cycle, or the slip shall change from time to time within the tolerances of the ratio of rotation and/or transverse movement of the sample tray shall occur. When transverse movement occurs the distance travelled during each cycle of transverse movement shall be (20 ± 1) mm at a speed of $(0,015 \pm 0,005)$ m/s.

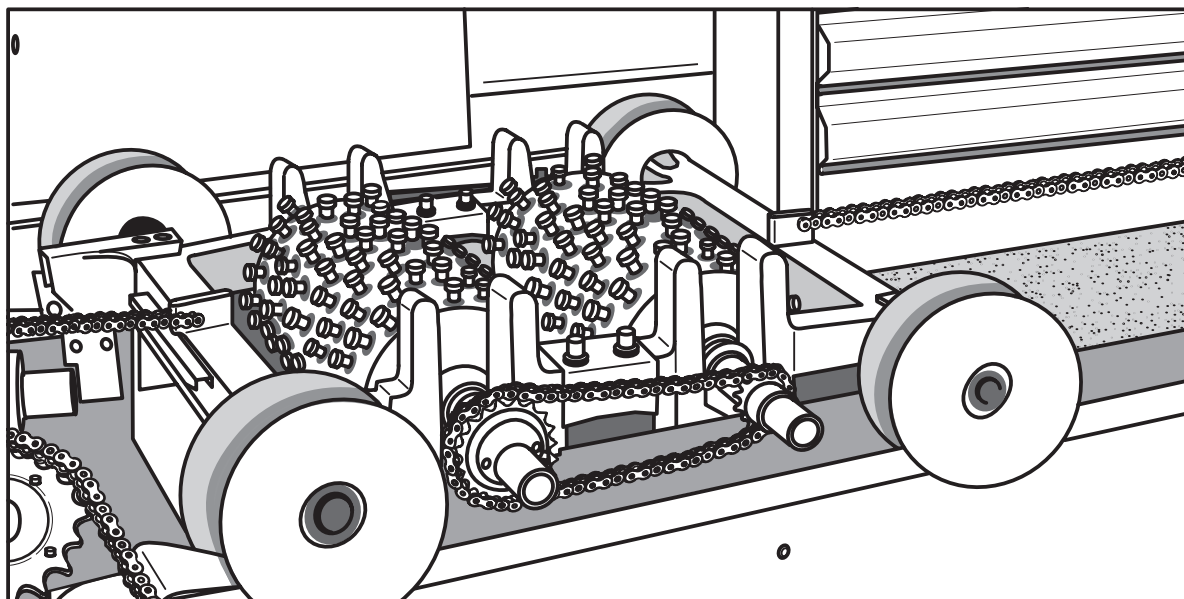


Figure 1 — Wear simulator

Mounted to the rollers shall be a test sole as specified in the product specification.

The standard studded test sole shall be comprised of (145 ± 5) studs¹. The studs shall be as shown in Figure 3, be manufactured from plastic and have a Shore A hardness of (96 ± 2) . The mass of the roller including the axle and studs shall be $(31\,000 \pm 500)$ g for a 300 mm wide roller. If wider rollers are used the mass shall be increased proportionally.

The studs shall not be mounted linearly on the cylinders but shall be mounted so that the studs and their movement form a low frequency sine wave to ensure that the wear area of the sample is uniform. Their pattern of the studs shall be as shown in Figure 2.

¹ 13 mm nylon studs supplied by Decathlon Group are an example of suitable products available commercially. This information is given for the convenience of users of this European Standard and does not constitute an endorsement by CEN of this product.

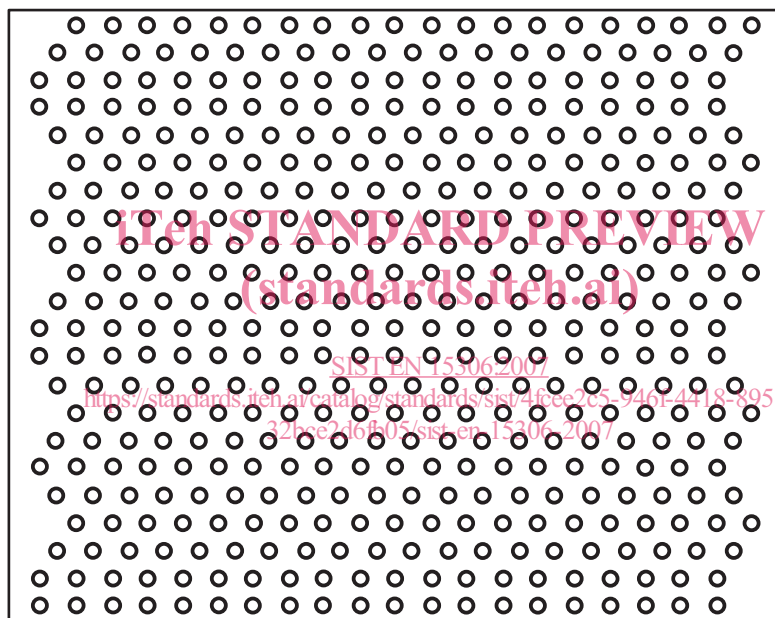
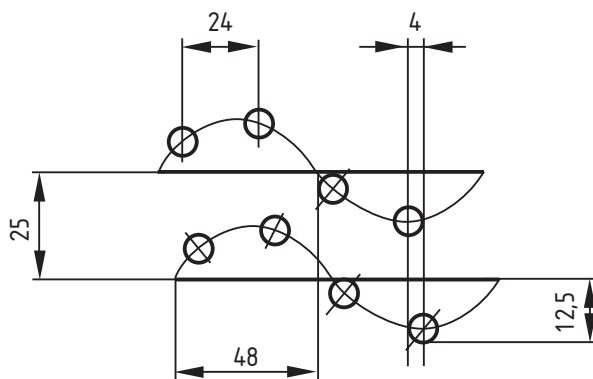
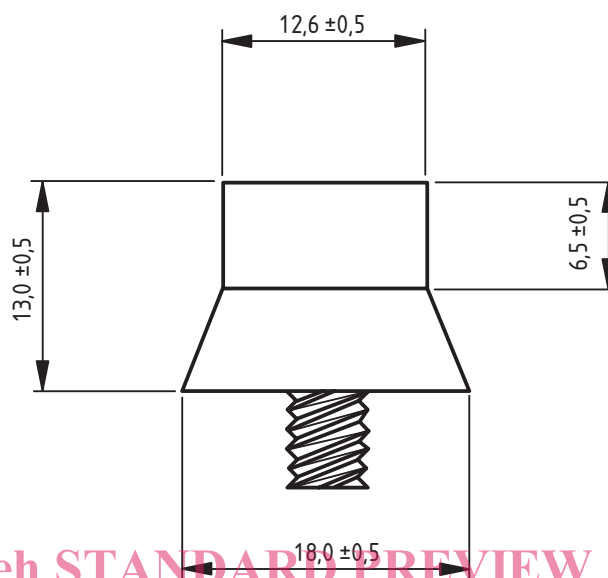


Figure 2 — Pattern of studs

The studs shall be as shown in Figure 3. They shall be manufactured from plastics and have a Shore A hardness of (96 ± 2) .

Dimensions in millimetres



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Figure 3 Stud profile

3.2 Stud inspection and replacement

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After every 20 tests, the length of the 15 studs removed at random from the rollers shall be determined. The mean length and the standard deviation of the 15 studs shall be calculated, and if the mean length is less than 11,0 mm, the standard deviation is more than 0,5 or any one stud has a length of less than 10 mm, all of the studs on both rollers shall be replaced.

4 Test pieces

The dimension of the test piece shall be a minimum of 800 mm x 400 mm. The uniform abraded surface shall be at least 500 mm x 300 mm.

5 Procedure

5.1 Conditioning

Condition the test piece for 24 h at a temperature of (23 ± 2) °C.

5.2 Test

Mount the test piece into the sample tray and fill it (if applicable) in accordance with the manufacturer's instructions.

Place the prepared test piece in the wear simulator (4.1) and adjust the height of the rollers to ensure full stud contact with the infill layer or carpet pile. Undertake the number of cycles given in the relevant specification. After every 1 000 cycles (one cycle is comprised of one complete to and fro movement), stop the machine and