



SLOVENSKI STANDARD
kSIST FprEN 15306:2013

01-september-2013

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

Ta slovenski standard je istoveten z: FprEN 15306

ICS:

97.220.10 Športni objekti Sports facilities

kSIST FprEN 15306:2013 en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

FINAL DRAFT
FprEN 15306

May 2013

ICS 97.220.10

Will supersede EN 15306:2007

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 draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 217.

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, 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.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents		Page
Foreword		3
1	Scope.....	4
2	Principle	4
3	Apparatus	4
3.1	Wear simulator	4
3.2	Stud inspection and replacement	8
4	Test pieces.....	8
5	Procedure	8
5.1	Conditioning	8
5.2	Test.....	8
6	Evaluation and expression of results	9
6.1	Change of appearance.....	9
6.2	Test of sports functional characteristics.....	9
7	Test report	9
Bibliography		10

Foreword

This document (FprEN 15306:2013) has been prepared by Technical Committee CEN/TC 217 “*Surfaces for sports areas*”, the secretariat of which is held by AFNOR.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 15306:2007.

FprEN 15306:2013 (E)**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**

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 roller shall rotate at a circumferential speed as close as possible to the speed of the carriage (allowing for frictional losses). The second roller shall rotate 40 ± 3 % slower than the first. The rollers shall be mounted so the roller rotating more slowly is the leading roller (the first to contact the sample).

The ratio of rollers speeds can be obtained using gear ratios of 1:1.75.

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.

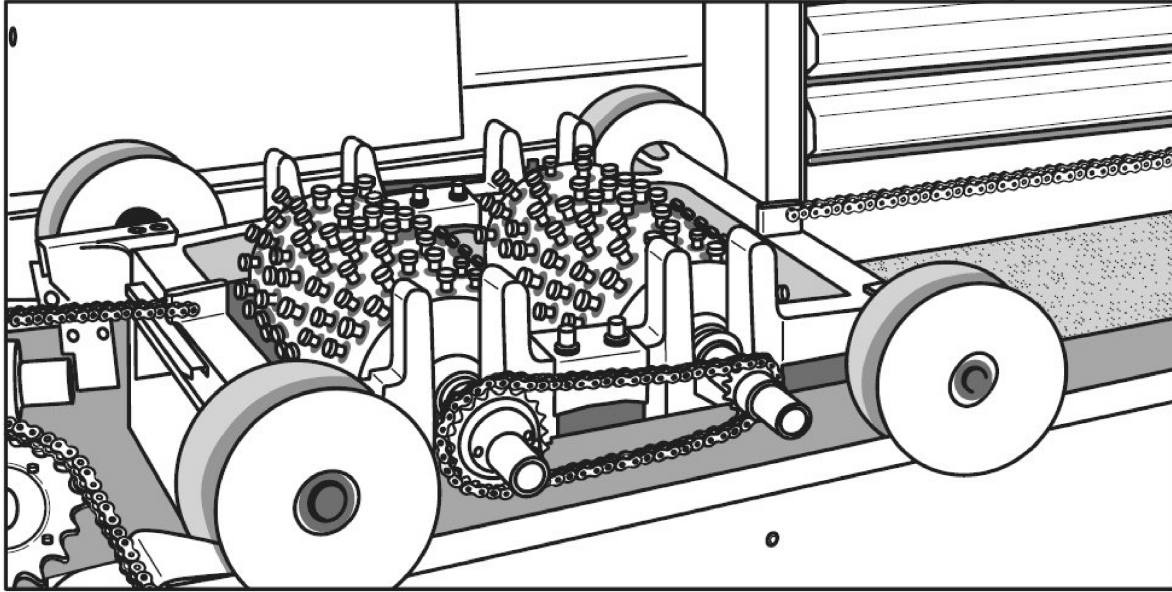


Figure 1 — Wear simulator

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 all the gears and chains that contribute to the load on the sample $(28\,500 \pm 500)$ 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. The location of the mounting positions of each stud shall be as detailed in Table 1.

Note a manufacturing tolerance of ± 1 mm for the stud positions has been found satisfactory.

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.

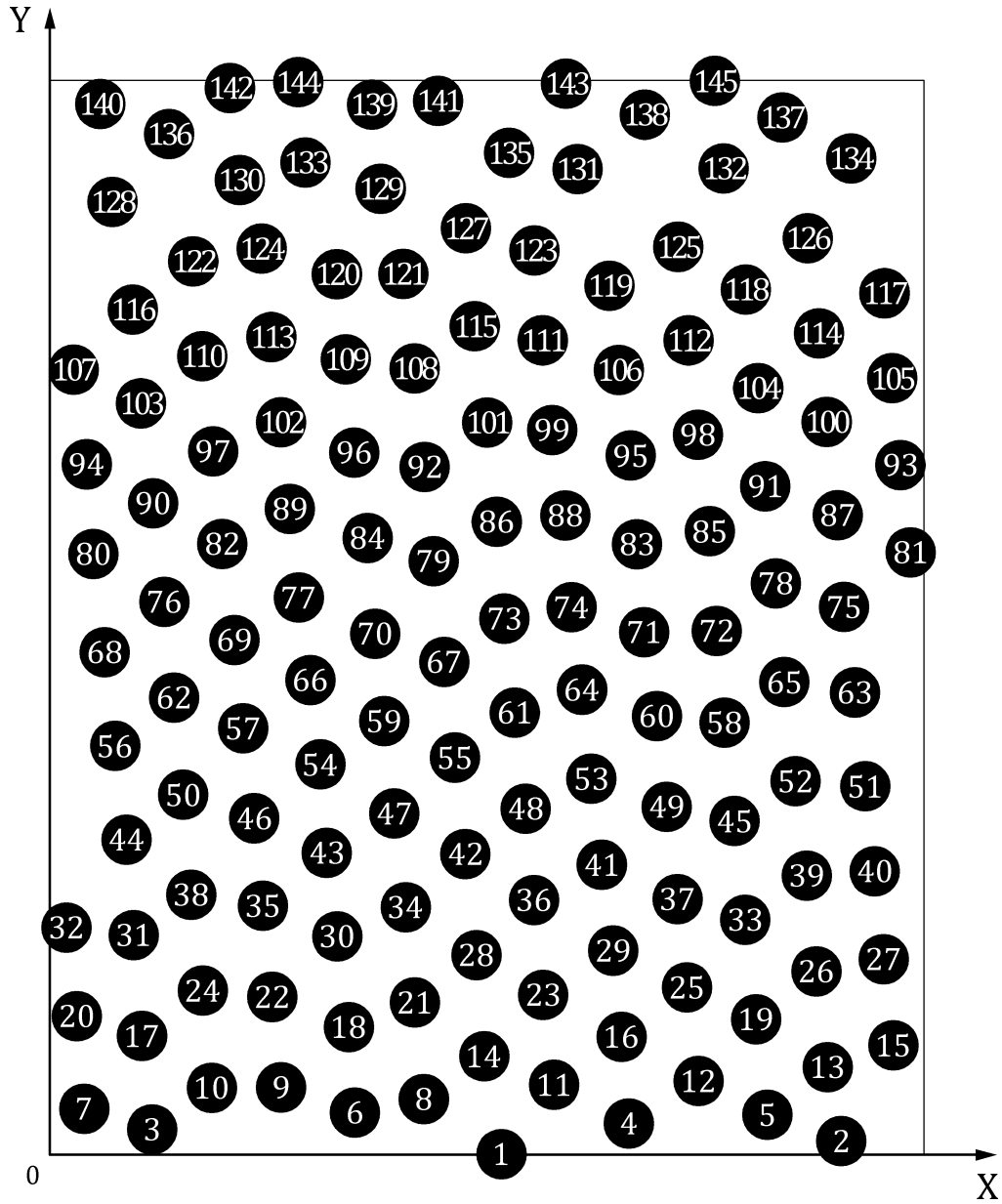


Figure 2 — Pattern of studs