

**Surfaces for sports areas - Synthetic turf and
needle-punched surfaces primarily designed
for outdoor use - Part 2: Specification for
needle-punched surfaces**

Surfaces for sports areas - Synthetic turf and
needle-punched surfaces primarily designed for
outdoor use - Part 2: Specification for needle-
punched surfaces

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

<p>Käesolev Eesti standard EVS-EN 15330-2:2008 sisaldab Euroopa standardi EN 15330-2:2008 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 25.03.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 30.01.2008.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 15330-2:2008 consists of the English text of the European standard EN 15330-2:2008.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 25.03.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 30.01.2008.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

ICS 97.220.10

Võtmesõnad:

Standardite reprodutseerimis- ja levitamisoigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
 Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

English Version

**Surfaces for sports areas - Synthetic turf and needle-punched
surfaces primarily designed for outdoor use - Part 2:
Specification for needle-punched surfaces**

Sols sportifs - Surfaces en gazon synthétique et en textile
aiguilleté principalement destinées à l'usage en extérieur -
Partie 2 : Spécifications relatives aux surfaces en textile
aiguilleté

Sportböden - Überwiegend für den Außenbereich
hergestellte Kunststoffrasenflächen und Nadelfilze - Teil 2:
Festlegungen für Nadelfilze

This European Standard was approved by CEN on 22 December 2007.

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.

CEN members are the national standards bodies of 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.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Page

Foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	5
4 General	6
4.1 Resistance to artificial weathering	6
4.2 Water permeability	6
4.3 Joint strength	6
4.4 Abrasion resistance	6
4.5 Tensile properties of carpet	6
5 Surfaces designed for multi-sports use	6
5.1 General	6
5.2 Vertical ball rebound	7
5.3 Ball roll and velocity change	7
5.4 Shock absorption	7
5.5 Rotational Resistance	8
5.6 Angled ball behaviour	8
6 Surfaces designed primarily for tennis	8
6.1 General	8
6.2 Vertical ball rebound	8
6.3 Angled ball behaviour	8
6.4 Shock absorption	8
6.5 Rotational resistance	8
7 Information to be provided by the manufacturer or supplier	9
Annex A (informative) Site tests	10
A.1 General	10
A.2 Multi-sports pitches	11
A.3 Tennis courts	12
Annex B (normative) Preparation of wet test pieces	13
Annex C (informative) Ball rebound	14
Annex D (normative) Information to be supplied by the manufacturer or supplier regarding maintenance	15
Annex E (normative) Product identification	16
Annex F (normative) Surface regularity	17

Foreword

This document (EN 15330-2:2008) 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 July 2008, and conflicting national standards shall be withdrawn at the latest by July 2008.

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.

EN 15330 consists of the following parts, under the general title *Surfaces for sports areas — Synthetic turf and needle-punched surfaces primarily designed for outdoor use*:

- *Part 1: Specification for synthetic turf*
- *Part 2: Specification for needle-punched surfaces*

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.

1 Scope

This European Standard specifies performance and durability characteristics of needle-punched sports surfaces primarily used outdoors. Two categories of surfaces are covered, based on the principal sporting use of the surface, as follows:

- surfaces designed for multi-sports use; and
- surfaces designed primarily for tennis.

The requirements are intended to apply to surfaces used for community, educational and recreational sport. For professional and elite levels of competition, many sports governing bodies have published their own specifications; the requirements of the sports governing bodies might differ from those detailed in this European Standard and facility developers are advised to ensure that they select surfaces offering the correct levels of performance for the levels of competition to be played on the pitch or court.

This European Standard is based on type approval testing of products in the laboratory. Selected requirements may also be used on-site to assess the suitability of installed surfaces. Guidance on the testing of installations is given in Annex A.

2 Normative references

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.

EN 430, *Resilient floor coverings – Determination of mass per unit area*

EN 933-1, *Tests for geometrical properties of aggregates – Part 1: Determination of particle size distribution – Sieving method*

EN 1097-3, *Tests for mechanical and physical properties of aggregates - Part 3: Determination of loose bulk density and voids*

EN 1969, *Surfaces for sports areas – Determination of thickness of synthetic sports surfaces*

EN 12616, *Surfaces for sports areas – Determination of water infiltration rate*

EN 12230, *Surfaces for sports areas – Determination of tensile properties of synthetic sports surfaces*

EN 12235, *Surfaces for sports areas – Determination of vertical ball behaviour*

EN 12228, *Surfaces for sports areas – Determination of joint strength of synthetic surfaces*

EN 12229, *Surfaces for sports areas – Procedure for the preparation of synthetic turf and needle-punch test pieces*

EN 12234, *Surfaces for sports areas – Determination of ball roll behaviour*

EN 13036-7, *Road and airfield surface characteristics – Test methods – Part 7: Irregularity measurement of pavement courses: the straightedge test*

EN 13672, *Surfaces for sports areas – Determination of resistance to abrasion of non-filled synthetic turf*

EN 13744, *Surfaces for sports areas – Procedure for accelerated ageing by immersion in hot water*

EN 13865, *Surfaces for sports areas – Determination of angled ball behaviour – Tennis*

EN 14808, *Surfaces for sports areas – Determination of shock absorption*

EN 14809, *Surfaces for sports areas – Determination of vertical deformation*

EN 14836, *Synthetic surfaces for outdoor sports areas - Exposure to artificial weathering*

EN 14955, *Surfaces for sports areas – Determination of composition and particle shape of unbound mineral surfaces for outdoor sports areas*

EN 15301-1, *Surfaces for sports areas – Part 1: Determination of rotational resistance*

EN 20105-A02, *Textiles – Tests for colour fastness – Part A02: Grey scale for assessing change in colour (ISO 105-A02:1993)*

EN ISO 5079, *Textiles – Fibres - Determination of breaking force and elongation at break of individual fibres (ISO 5079:1995)*

EN ISO 13934-1, *Textiles – Tensile properties of fabrics – Part 1: Determination of maximum force and elongation at maximum force using the strip method (ISO 13934-1:1999)*

ISO 1766, *Textile floor coverings — Determination of thickness of pile above the substrate*

ISO 8543, *Textile floor coverings — Methods for determination of mass*

ISO 11357-3, *Plastics – Differential scanning calorimetry (DSC) – Part 3: Determination of temperature and enthalpy of melting and crystallization*

3 Terms and definitions

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

3.1

non-filled needle-punched surface

needle-punched or fibre bonded surface that does not contain any form of unbound particulate fill within the pile of the carpet

3.2

filled needle-punched surface

needle-punched or fibre bonded surface whose pile is either totally filled or partly filled with an unbound particulate material (typically sand)

3.3

surface for multi-sports

needle-punched or fibre bonded surface designed to be used for more than one sport