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Golvmaterial – Sportbeläggningar – Konstgräs och nålfilt främst avsedda för utomhusbruk – Del 1: Specifikation för syntetisk gräsplan

**Surfaces for sports areas – Synthetic turf and needle-punched
surfaces primarily designed for outdoor use –
Part 1: Specification for synthetic turf surfaces for football,
hockey, rugby union training, tennis and multi-sports use**

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Denna standard ersätter SS-EN 15330-1/AC:2007, utgåva 1 och SS-EN 15330-1:2007, utgåva 1.

The European Standard EN 15330-1:2013 has the status of a Swedish Standard. This document contains the official version of EN 15330-1:2013.

This standard supersedes the Swedish Standard SS-EN 15330-1/AC:2007, edition 1 and SS-EN 15330-1:2007, edition 1.

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Denna standard är framtagen av kommittén för Golvbeläggningar, SIS/TK 184.

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EUROPEAN STANDARD

EN 15330-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2013

ICS 97.220.10

Supersedes EN 15330-1:2007

English Version

**Surfaces for sports areas - Synthetic turf and needle-punched surfaces primarily designed for outdoor use - Part 1:
Specification for synthetic turf surfaces for football, hockey, rugby union training, tennis and multi-sports use**

Sols sportifs - Surfaces en gazon synthétique et surfaces en textile aiguilleté principalement destinées à l'usage en extérieur - Partie 1: Spécifications relatives aux surfaces en gazon synthétique destinées à la pratique du football, du hockey ou du tennis, aux entraînements de rugby, ou à un usage multi-sports

Sportböden - Überwiegend für den Außenbereich hergestellte Kunststoffrasenflächen und Nadelfilze - Teil 1: Festlegungen für Kunststoffrasen für Fußball, Hockey, Rugbytraining, Tennis und multifunktionale Kunststoffrasenflächen

This European Standard was approved by CEN on 25 July 2013.

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-CENELEC 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-CENELEC 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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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SS-EN 15330-1:2013 (E)

Foreword

This document (EN 15330-1:2013) has been prepared by Technical Committee CEN/TC 217 “Surfaces for sports areas”, the secretariat of which is held by AFNOR.

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 2014, and conflicting national standards shall be withdrawn at the latest by March 2014.

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 15330-1:2007.

Compared with EN 15330-1:2007, the text has been clarified and editorial errors have been corrected.

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 surfaces for football, hockey, rugby union training, tennis and multi-sports use;*
- *Part 2: Specification for needle-punched surfaces.*

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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 the United Kingdom.

1 Scope

This European Standard specifies performance, durability, product identification and facility testing requirements for synthetic turf sports surfaces used primarily outdoors. Five categories of surface are covered, each based on the principal sporting use of the surface, as follows:

- surfaces designed primarily for hockey;
- surfaces designed primarily for association football;
- surfaces designed primarily for rugby union for training purposes;
- surfaces designed primarily for tennis;
- surfaces designed for multi-sports use.

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 level of performance for the level of competition played on the pitch or court.

NOTE Under the Laws of the Game of Rugby Union, surfaces for rugby union matches need to comply with the International Rugby Board's IRB Regulation 22 and associated performance specification for synthetic turf surfaces.

This European Standard has two parts. The first part describes the requirements for product testing of products in the laboratory to ensure they are capable of providing the required levels of sports performance and player/surface interaction required for their intended use and that they are manufactured from materials of acceptable quality. The second section describes the requirements for installed surfaces to ensure that the sports performance and player/surface interaction of a facility is suitable for the intended use.

Some of the surfaces covered by this European Standard are designed to allow users to wear footwear fitted with studs. An example of a typical stud is given in EN 15306. For the purposes of this European Standard, multi-dimpled shoe profiles often found on footwear used on sand-filled or non-filled synthetic turfs are not considered to be studs.

When independent third party testing of synthetic turf sports surfaces is required to assess compliance with this standard, it is recommended the laboratory is certified to EN ISO/IEC 17025 for the relevant test methods specified in this standard.

2 Normative references

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

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 1177, *Impact attenuating playground surfacing — Determination of critical fall height*

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

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

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

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

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

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

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

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 13817, *Surfaces for sports areas — Procedure for accelerated ageing by exposure to hot air*

EN 13864, *Surfaces for sports areas — Determination of tensile strength of synthetic yarns*

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 15306, *Surfaces for outdoor sports areas — Exposure of synthetic turf to simulated wear*

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

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)*

ISO 1763, *Carpets — Determination of number of tufts and/or loops per unit length and per unit area*

ISO 2549, *Textile floor coverings — Hand-knotted carpets — Determination of tuft leg length above the woven ground*

ISO 4919, *Carpets — Determination of tuft withdrawal force*

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

synthetic turf surface

sports surface comprised of a carpet of tufted, knitted or woven construction whose pile is designed to replicate the appearance of natural grass

Note 1 to entry: Not necessarily in colour.

3.2

non-filled synthetic turf

synthetic turf surface that does not contain any form of unbound particulate fill within the pile of the carpet

3.3

filled synthetic turf

synthetic turf surface whose pile is either totally filled or partly filled with an unbound particulate material, typically sand, rubber or sand and rubber mixes

3.4

short pile synthetic turf

synthetic turf surface whose pile length is less than 30 mm when tested in accordance with ISO 2549

3.5

long pile surfaces

synthetic turf surface whose pile length is equal to or greater than 30 mm when tested in accordance with ISO 2549

3.6

surface for multi-sports

synthetic turf surface designed to be used for more than one sport

Note 1 to entry: For further information see Annex A.

3.7

synthetic turf surfacing system

all components of the surface that influence its sports performance or bio-mechanical characteristics including the synthetic turf carpet, infill and shockpad, together with any supporting layers designed to contribute to the performance of the surface

3.8

infill

particulate materials used to infill the synthetic turf pile to provide support and aid the provision of the required performance characteristics

3.9

shockpads

prefabricated or *in situ* laid sheets or tiles laid beneath the synthetic turf carpet and designed to aid the provision of the required performance

4 Laboratory type approval

4.1 General

When tested in the laboratory, the synthetic turf surface shall comply with the following requirements.