

Surfaces for sports areas - Test methods for the determination of vertical water infiltration and horizontal water flow rates

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 12616:2023 sisaldab Euroopa standardi EN 12616:2023 ingliskeelset teksti.	This Estonian standard EVS-EN 12616:2023 consists of the English text of the European standard EN 12616:2023.
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ICS 97.220.10

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English Version

Surfaces for sports areas - Test methods for the  
determination of vertical water infiltration and horizontal  
water flow rates

Sols sportifs - Méthodes d'essai pour la détermination  
de la vitesse d'infiltration verticale de l'eau et du débit  
d'eau horizontal

Sportböden - Prüfverfahren zur Bestimmung der  
vertikalen Wasserinfiltrationsrate und der  
horizontalen Wasserdurchflussrate

This European Standard was approved by CEN on 16 October 2022.

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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-CENELEC Management Centre has the same status as the official versions.

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## European foreword

This document (EN 12616:2023) 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of an identical text or by endorsement, at the latest by July 2023, and conflicting national standards shall be withdrawn at the latest by July 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12616:2013.

In comparison with the previous edition, the following technical modifications have been made: a temperature correction factor has been reinstated (from the 2003 edition) and a laboratory test method for measuring the horizontal water flow rate has been added.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## 1 Scope

This document has two parts.

Part 1 specifies four methods for the determination of the vertical water infiltration rate of different types of sports surfacing.

Method A is suitable for measuring the vertical water infiltration rate of synthetic, textile and synthetic turf sports surfaces in the laboratory.

Method B is suitable for on-site measurements of the Vertical Water Infiltration Rate of synthetic, textile, synthetic turf and bound mineral sports surfaces.

Method C is suitable for on-site measurements of the vertical water infiltration rate of natural turf sports surfaces.

Method D is suitable for measuring the for on-site measurements of the vertical water infiltration rate of unbound mineral sports surfaces.

**NOTE** For filled synthetic turf and unbound mineral surfaces, laboratory tests are considered to give a more precise indication of how a surface will perform.

Part 2 specifies a method for determining the horizontal water flow rate of synthetic, textile and synthetic turf surfaces in the laboratory.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 ISO 12958-1:2020, *Geotextiles and geotextile-related products - Determination of water flow capacity in their plane - Part 1: Index test (ISO 12958-1:2020)*

## 3 Terms and definitions

No terms and definitions are listed in this document.

## 4 Part 1 – Determination of vertical water infiltration rate

### 4.1 Method A – laboratory determination of synthetic turf, textile and synthetic sports surfaces

#### 4.1.1 Principle

Water is ponded in a cylinder into which a test specimen has been sealed. The rate of flow through the sports surface is measured.

**NOTE** The test can be performed on a component of a sports surfacing system, e.g. on a shockpad or synthetic turf carpet, or on a total system.

#### 4.1.2 Apparatus

**4.1.2.1 Single ring infiltrometer**, of metallic or plastic material with an internal diameter of  $300 \text{ mm} \pm 2 \text{ mm}$  and a method of sealing the ring to the product to be tested (either mechanically with a clamp or by use of a sealant) (see Figure 1).