SLOVENSKI STANDARD
SIST EN 17409:2020

01-september-2020

Podloge za športne dejavnosti - Pravila za vzorčenje polnil, ki se uporabljajo za umetne travnate podloge

Surfaces for sports areas - Code of practice for the sampling of performance infills used within synthetic turf surfaces

Sportböden - Regeln für die Probenahme bei Füllungen, die in Kunstrasenflächen verwendet werden

Surfaces pour sols sportifs - Code de bonnes pratiques pour l'échantillonnage des matériaux de remplissage utilisés dans les surfaces de gazon synthétique

Ta slovenski standard je istoveten z: **EN 17409:2020**

ICS:

97.220.10	Športni objekti	Sports facilities

SIST EN 17409:2020 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 17409

May 2020

ICS 97.220.10

English Version

Surfaces for sports areas - Code of practice for the sampling of performance infills used within synthetic turf surfaces

Surfaces pour sols sportifs - Code de bonnes pratiques pour l'échantillonnage des matériaux de remplissage utilisés dans les surfaces de gazon synthétique

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

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Ref. No. EN 17409:2020 E

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European foreword

This document (EN 17409:2020) 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of an identical text or by endorsement, at the latest by November 2020, and conflicting national standards shall be withdrawn at the latest by November 2020.

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.

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1 Scope

This document specifies the minimum procedures for the sampling of performance infills used within synthetic turf surfaces to verify compliance with toxicology, environmental and performance regulations and standards.

Four sampling procedures are specified:

Method 1 specifies how to take samples during production of the infill material.

Method 2 specifies how to take samples from big bags delivered to site.

Method 3 specifies how to take samples from small bags delivered to site.

Method 4 specifies a procedure for taking samples from a synthetic turf (e.g. sports, recreational or landscaping surface).

The procedures specified are suitable for all forms of infill.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
big bag
flexible container capable of holding ≥ 1 m^3 (1 000 l) or more of infill

3.2
field sample
sample taken in the field and from which laboratory samples are produced

3.3
increment
sub-portion of material extracted in a single operation by the sampling device

3.4
infill
particulate materials used to infill the synthetic turf pile to provide support of the carpet pile and to aid the provision of the required performance characteristics of the surface

3.5
laboratory sample
sample or sub-sample sent to or received by the laboratory

3.6
lot
defined quantity of infill material for which a characteristic is to be determined

3.7
sample
mix of all the increments taken from a lot

3.8
sampling tool
tool used to remove a quantity of material, greater than or equal to 0,000 3 m^3 (0,3 l), from different heights within a big bag

3.9
small-bag
flexible container capable typically holding 0,05 m^3 (50 l) of infill

3.10
test portion
quantity or volume of infill removed from the test sample for analysis purposes

3.11
test sample
prepared from the laboratory sample, from which the test portions are removed for testing or for analysis

4 General

The method of sampling employed shall be designed and controlled to ensure that contamination of the increment, lot, sample, test portion or test sample cannot occur.

When laboratory samples are being taken for chemical analysis increments and samples shall be stored in containers that are known to not influence the results of the analysis.

NOTE Metal or glass containers are considered to satisfy this requirement.

All equipment shall be thoroughly cleaned before use.

5 Method 1 — sampling during production

5.1 Sampling plan

The main principle of sampling is to obtain a representative sample(s) from a lot of material from which a characteristic is to be determined. If the lot is to be represented by a sample, then every particle in the lot shall have an equal probability of being included in the sample.

When these principles cannot be applied in practice, the sampler shall define a judgemental sampling procedure that is designed to ensure the sampling matches as far as possible the outcomes of probability sampling and note any limitations of the procedure used in the sampling plan and sampling report.

Obtaining samples that are truly representative of the material produced is easier when the material is falling or moving (for example on a conveyor belt). Therefore, sampling from falling or moving material shall be undertaken wherever possible.

A sampling plan shall be prepared before samples are taken. This shall include a specific definition of the lot size and the size and number of increments to be taken.

5.2 Lot size

The minimum lot size shall be 10 t and the maximum lot size shall not exceed 120 t of product.

NOTE 1 A lot size of 120 t is based on the typical quantity of infill used on a 60 mm full size synthetic turf football field.

When determined by the producer the lot size may be defined as:

a) a fixed quantity produced between machine settings;

b) a fixed quantity in a production day/shift;

c) a fixed quantity;

d) a quantity produced in a fixed time frame.

NOTE 2 Option d) is most appropriate for continuous production with no beginning and no end.

5.3 Sampling point and apparatus

Based on health and safety assessments and producer equipment, a fixed sampling point for the collection of sample increments shall be chosen for each material fraction to be monitored. Sampling shall be carried out using a sample box or other suitable equipment.

The sampling box shall be passed through the stream of falling material so that it uniformly cuts the full flow of falling material. The box shall be large enough so that it does not become overloaded. Automatic systems fulfilling these criteria may also be used.

NOTE A procedure for preparing samples for chemical analysis is given in Annex A.

5.4 Size of sample increment

The sampling box shall have a capacity of not less than 0,5 l (0,000 5 m^3).

The sampling operator shall record the approximate capacity of the sampling device in cubic decimetres.

5.5 Number of increments

One increment shall be taken per 10 t of produced infill, with a minimum of four increments per lot.

Where daily or weekly production quantities are small, the taking of increments should be increased to ensure the lot comprises at least four increments.

6 Method 2 — sampling from big bags

6.1 Principle

The laboratory sample is created by mixing several increments removed with a sampling tool from at least three levels, with at least one located on each level, as specified in 6.3.

6.2 Apparatus

6.2.1 Sampling tool

This tool shall be designed to take samples of dry or slightly cohesive wet materials,. It shall be shaped in such a way to allow the operator to reach different heights by simply screwing the tool into the big bag. Its opening shall be wider than three times the size of the largest particle expected to be present in the big bag.

6.2.2 Measuring flask

Container of known volume; greater than 1 l (0,001 m^3).

6.2.3 Container

Containers shall be used to recover the increments.

6.3 Procedure

6.3.1 Sampling

Using the sampling rod take, at least, three increments at different heights in accordance with 6.3.2 within the big bag as follows:

1. Close the container on the sampling rod (see Figure 1):

Figure 1 — Sampling rod

2. Insert the sampling rod into the big bag and twist in a clockwise direction from the top of the big bag (see Figure 2):

Figure 2 — Rotating sampling rod in big bag

3. When the sampling depth has been reached, open the sampling container by turning the sampling rod in the opposite direction.

4. Make three full rotations in the same direction to fill the container.

5. Twist the sampling rod in counter-clockwise direction in order to close the container.

6. Pull out the sampling rod and empty into the sampling container.

7. Repeat procedure to collect increments in the middle of the big bag, and then at the bottom of the big bag.

8. Merge the three increments accordance with Clause 9.

6.3.2 Sampling heights

Take increments from different heights. At least three increments shall be taken at different heights:

— P1: At the top of the big bag (approximately 20 cm from the surface)

— P2: In the middle of the big bag

— P3: At the bottom of the big bag (approximately 20 cm from the bottom)

Dimensions in centimetres

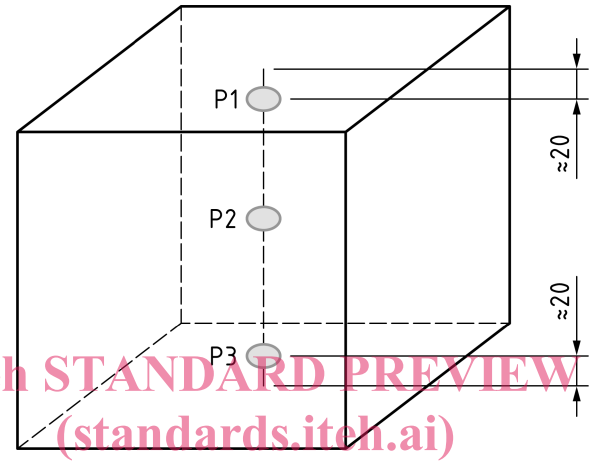

Figure 3 —Position of increments for three portions

If it is not possible to take increments in the centre axis of big bag (see Figure 3) then six increments shall be taken, on two opposite sides of the big bag at different heights (see Figure 4).

Dimensions in centimetres

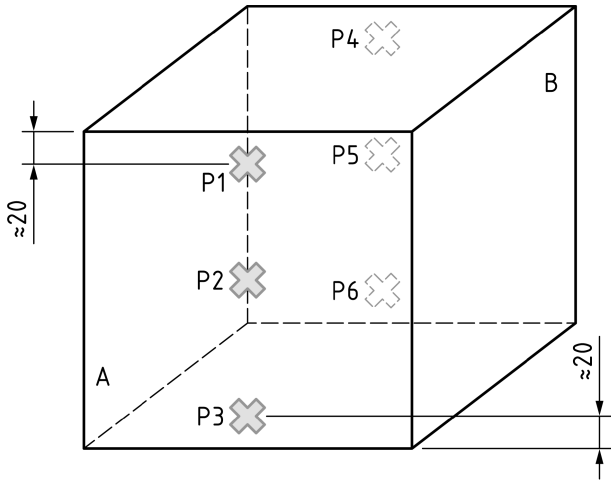

Figure 4 — Position of increments for six portions

Merge the increments in accordance with Clause 9.

Ensure the combined increment is equal to or greater than 1 l (0,001 m^3).