SLOVENSKI STANDARD
oSIST prEN ISO 9073-11:2024

01-oktober-2024

Vlaknovine - Preskusne metode - 11. del: Odtekanje (ISO/DIS 9073-11:2024)

Nonwovens - Test methods - Part 11: Run-off (ISO/DIS 9073-11:2024)

Vliesstoffe - Prüfverfahren- Teil11: Bestimmung des Ablaufverhaltens (ISO/DIS 9073-11:2024)

Nontissés - Méthodes d'essai - Partie 11: Écoulement sur plan incliné (ISO/DIS 9073-11:2024)

Ta slovenski standard je istoveten z: **prEN ISO 9073-11**

ICS:

59.080.30 Tkanine Textile fabrics

oSIST prEN ISO 9073-11:2024 **en,fr,de**

DRAFT International Standard

ISO/DIS 9073-11

Nonwovens — Test methods —

Part 11: Run-off

ICS: 59.080.30

ISO/TC **38**

Secretariat: **JISC**

Voting begins on:
2024-07-29

Voting terminates on:
2024-10-21

This document is circulated as received from the committee secretariat.

ISO/CEN PARALLEL PROCESSING

Reference number
ISO/DIS 9073-11:2024(en)

COPYRIGHT PROTECTED DOCUMENT

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 38, *Textiles]*, Working Group WG9, *Nonwovens*.

This second edition cancels and replaces the first edition (ISO 9073-11:2002), which has been technically revised.

The main changes compared to the previous edition are as follows:

— Title change

— Textual review and improvement

A list of all parts in the ISO 9073 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Nonwovens — Test methods —

Part 11: Run-off

SAFETY WARNING — This standard does not claim to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. It is expected that the person performing this test has been fully trained in all aspects of this procedure.

1 Scope

This test method measures the amount of test liquid (simulated urine) which runs down a nonwoven test specimen when a specified mass of test liquid is poured on the nonwoven test specimen superimposed on a standard absorbent medium and placed on an inclined plane.

This test method is designed to compare run-off of nonwovens. It is not intended to simulate in use conditions for finished products.

This present method has three options:

a) **Option A - basic method** for testing hydrophilic nonwovens

b) **Option B - repeated test**, with the same test parameters as the basic method with additional information in

c) **Option C - modified method** for testing hydrophobic nonwovens specifying another degree of incline

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.

ISO 139, *Textiles — Standard atmospheres for conditioning and testing*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 3951-1, *Sampling procedures for inspection by variables — Part 1: Specification for single sampling plans indexed by acceptance quality limit (AQL) for lot-by-lot inspection for a single quality characteristic and a single AQL*

ISO 5636-1, *Paper and board — Determination of air permeance (medium range) — Part 1: General method*

ISO 9073-6, *Test methods for nonwovens — Part 6 Absorption*

NWSP 001.0, *Standard Terminology Relating to the Nonwoven Industry, EDANA's and INDA's Standard Procedures*

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:

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

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

3.1
percent run-off
percent of the original mass of liquid which runs from the test specimen

3.2
run-off
amount of excess liquid in gram that runs from the test specimen

3.3
sample
product or portion of a product taken from a production lot, identifiable and traceable back to the origin

3.4
simulated urine
testing liquid consisting of a 9 g/l solution of sodium chloride in demineralized water with a surface tension of (70 ± 2) mN/m

3.5
test specimen
specific portion of the identified sample upon which a test is performed. 7.2 specifies the number of test specimens needed.

4 Conditioning

Bring samples to moisture equilibrium in the standard atmosphere for testing nonwovens as directed in ISO 139. Equilibrium is considered to have been reached when the increase in mass of the test specimen in successive weighing made at intervals of not less than 2 hours does not exceed 0,25 % of the mass of the test specimen.

NOTE While conditioning for a fixed time cannot be accepted in cases of dispute, it may be sufficient in routine testing to expose the material to the standard atmosphere for testing nonwovens for a reasonable period of time before the test specimens are tested, i.e. 4 hours.

5 Sampling

5.1 Lot Size

A lot should be established based on a logical break in the process or as prescribed by a regulation or traceability requirements.

Test specimens being selected in accordance with NWSP 005.0, if applicable.

5.2 Sampling

If provided in the customer specification, take random sample as directed. If no requirements are provided, ISO 2859-1 (Sampling procedures for inspection by attributes) or ISO 3951-1 (Sampling procedures for inspection by variables) can be used. In and of themselves, these are not valid sampling plans by default. An agreement between the purchaser and supplier requires taking into account process stability, producer's risk, consumer's risk, acceptable quality level and also the cost needs to be established.

In general, if the test characteristic can be considered normally distributed, the sampling procedures for inspection by variables will require fewer samples. However, small samples may not reflect that normal

distribution and the estimated percent defective can therefore be over or under estimated. In this case, as well as for attribute data, the Sampling procedures for inspection by attributes should be used.

In the absence of any sampling size requirement, Table 1 and Table 2 below can be used. Switching rules are required to maintain the AQL protection.

Table 1 — Attributes (1.0 AQL, General Inspection Level II)

Number of units in the lot inclusive	Number of units that comprise the lot sample
1 to 150	13
151 to 280	32
281 to 500	50
501 to 1 200	80

Table 2 — Variables ("s" method, General Inspection Level II)

Number of units in the lot inclusive	Number of units that comprise the lot sample
1 to 15	3
16 to 25	4
26 to 50	6
51 to 90	9
91 to 150	13
151 to 280	18
281 to 500	25
501 to 1 200	35

NOTE An adequate specification or other agreement between the purchaser and supplier requires taking into account the variability between rolls of nonwoven fabric and between test specimens from a swatch from a roll of material to provide a sampling plan with meaningful producer's risk, consumer's risk, acceptable quality level, and limiting quality level.

Care in handling the materials should be observed so that the final cut test specimens have not contacted any contaminants such as soap, salt, oil etc., which might facilitate or hinder absorbency. No dirt or other foreign material should be allowed on the test specimen; also, do not write on the test area of the test specimen.

5.3 Laboratory samples

From each roll or test specimen of fabric selected from the lot sample, cut at least one laboratory sample the full width of the fabric and at least 300 mm from each outside edge.

5.4 Laboratory test specimens

Cut test specimens of the nonwoven, (140 ± 2) mm x (280 ± 2) mm, with the longest side in machine direction (MD).

All three testing modifications use the same size test specimen. From section 6 onwards, please continue from the respective test to be executed:

6 The three options of the method

- **Option A: The basic method for testing hydrophilic nonwovens (page 8-10)**
- **Option B: The repeated test (page 11-14)**
- **Option C: Modified method for testing hydrophobic nonwovens (page 15 - 18)**

Annex A

Option A – The basic method for testing hydrophilic nonwovens

A.1 Principle

A specified quantity of simulated urine is discharged at a prescribed rate under specified conditions onto a test specimen of nonwoven which is superimposed on a standard absorbent medium and placed on an inclined table. Any excess liquid that runs down the test specimen is collected by a standard receiver pad placed below the lower end of the nonwoven test specimen.

The run-off measures the mass of liquid collected by the standard receiver pad.

A.2 Reagents and materials

Use reagents of recognized analytical grade, unless otherwise specified, and demineralized water.

A.2.1 Standard absorbent medium/pad (blotter paper)

The absorbent medium/pad consists of 2 layers of (blotter) paper, (140 ± 1) mm x (275 ± 1) mm, with the longer side in the MD and the smooth side up.

The smooth side is determined and indicated by the producer's label, it is generally the side in contact with the conveyor wire during the production process, where the wire mark may be visible.

The blotter paper needs to meet the following specifications:

a) The mass per unit area of paper is (139 ± 11) g/m^2.

b) The liquid absorption capacity, of the paper, as determined by NWSP 010.1, is at least 480 %.

c) The mean strike-through time is 3 seconds or less, using test procedure NWSP 70.3, but without a test sample

d) Two layers of the blotter cut to the size above must fully absorb (25 ± 0,5) g mass of test liquid in (3,5 ± 0,5) s.

NOTE Information concerning a potential source of suitable blotter paper can be obtained from the nonwovens industry associations:

EDANA, www.edana.org or look directly at the test method webpage

INDA, www.inda.org

A.2.2 Standard receiver pad

The absorbing paper (same dimensions as the absorbent medium/pad) is to collect excess test liquid that runs down and off the test specimen, e.g. 2 layers of filter/blotter papers.

NOTE The receiver pad can be replaced by a receiver trough, see option (C).