

Requirements for sleeping bags - Part 2: Fabric and material properties (ISO 23537-2:2023)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>See Eesti standard EVS-EN ISO 23537-2:2023 sisaldab Euroopa standardi EN ISO 23537-2:2023 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 09.08.2023.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN ISO 23537-2:2023 consists of the English text of the European standard EN ISO 23537-2:2023.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 09.08.2023.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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English Version

## Requirements for sleeping bags - Part 2: Fabric and material properties (ISO 23537-2:2023)

Exigences pour les sacs de couchage - Partie 2:  
Propriétés de l'étoffe et des matières (ISO 23537-  
2:2023)

Anforderungen an Schlafsäcke - Teil 2: Gewebe- und  
Werkstoffeigenschaften (ISO 23537-2:2023)

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

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## European foreword

This document (EN ISO 23537-2:2023) has been prepared by Technical Committee ISO/TC 83 "Sports and other recreational facilities and equipment" in collaboration with Technical Committee CEN/TC 136 "Sports, playground and other recreational facilities and equipment" the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by February 2024, and conflicting national standards shall be withdrawn at the latest by February 2024.

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 ISO 23537-2:2016.

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

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, 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.

## Endorsement notice

The text of ISO 23537-2:2023 has been approved by CEN as EN ISO 23537-2:2023 without any modification.

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## 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 document 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](http://www.iso.org/directives)).

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This document was prepared by Technical Committee ISO/TC 83, *Sports and other recreational facilities and equipment*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 136, *Sports, playground and other recreational facilities and equipment*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 23537-2:2016), which has been technically revised.

The main changes are as follows:

- the requirement for colour fastness has been clarified to avoid misunderstanding (see [4.1.3.3](#));
- normative references have been updated (see [Clause 2](#)).

A list of all parts in the ISO 23537 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](http://www.iso.org/members.html).

## Introduction

The ISO 23537 series consists of two parts, which allows for separate validation of thermal properties and product and material performance. This separation of parts also allows for continued development of new product combinations as it encourages manufacturers to consider new combinations of materials which, for example, are not suitable to be tested by traditional textile physical tests, but which can still have thermal properties evaluated.

This document considers important aspects concerning the physical and performance properties of the sleeping bag. Thermal and dimensional requirements are specified in ISO 23537-1.

**NOTE** No prediction model exists for the determination of the limit temperatures based on the thermal resistance of the sleeping bag for children and babies. Moreover, such a model for testing cannot be developed because the necessary controlled sleep trials with children or babies in climatic chambers are, out of ethical reasons, not possible.

# Requirements for sleeping bags —

## Part 2: Fabric and material properties

### 1 Scope

This document specifies the fabric and material properties as well as provisions for labelling of adult sized sleeping bags for use in sports and leisure time activities.

This document does not apply to sleeping bags intended for specific purposes such as military use and extreme climate zone expedition. It does not apply to sleeping bags for children or babies.

### 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 105-A03, *Textiles — Tests for colour fastness — Part A03: Grey scale for assessing staining*

ISO 105-B02, *Textiles — Tests for colour fastness — Part B02: Colour fastness to artificial light: Xenon arc fading lamp test*

ISO 105-C06, *Textiles — Tests for colour fastness — Part C06: Colour fastness to domestic and commercial laundering*

ISO 105-E04, *Textiles — Tests for colour fastness — Part E04: Colour fastness to perspiration*

ISO 105-X12, *Textiles — Tests for colour fastness — Part X12: Colour fastness to rubbing*

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

ISO 3758, *Textiles — Care labelling code using symbols*

ISO 12947-1, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 1: Martindale abrasion testing apparatus*

ISO 12947-2, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 2: Determination of specimen breakdown*

ISO 13937-1, *Textiles — Tear properties of fabrics — Part 1: Determination of tear force using ballistic pendulum method (Elmendorf)*

EN 12130, *Feather and down — Test methods — Determination of the filling power (massic volume)*

EN 12132-1, *Feather and down — Methods of testing the down proof properties of fabrics — Part 1: Rubbing test*

EN 12934, *Feather and down — Composition labelling of processed feathers and down for use as sole filling material*

EN 12935, *Feather and down — Hygiene and cleanliness requirements*

EN 13088, *Manufactured articles filled with feather and down — Method for the determination of a filled product's total mass and for the determination of the mass of the filling*



EN 13538-3, *Determination of dimensional characteristics of sleeping bags — Part 3: Volume under load and easiness of packing*

EN 15586, *Textiles — Methods of testing the fibre proof properties of fabrics: Rubbing test*

EN 29073-1, *Textiles — Test method for nonwovens — Part 1: Determination of mass per unit area*

### 3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology 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/>

### 4 Requirements and test methods

#### 4.1 Fabrics

##### 4.1.1 Down proofness

The fabric/fabric combinations of the shell or lining of the sleeping bag shall be tested in accordance with EN 12132-1.

The number of feather and/or down fibres counted shall not exceed 10 for each fabric/fabric combination as described in EN 12132-1.

##### 4.1.2 Synthetic fibre proofness

The synthetic fibre proofness shall be tested in accordance with EN 15586.

The number of synthetic fibres protruded through the shell or lining of the sleeping bags shall be  $\leq 30$  for each cushion.

##### 4.1.3 Mechanical properties

###### 4.1.3.1 Abrasion

The abrasion resistance of the fabric shall be tested in accordance with ISO 12947-1 and ISO 12947-2. The shell of sleeping bags shall withstand  $\geq 20\,000$  test cycles.

###### 4.1.3.2 Tear force

The tear properties of the fabric shall be tested in accordance with ISO 13937-1. The tear force of shell and lining fabrics shall be  $\geq 10\text{ N}$ .

###### 4.1.3.3 Colour fastness

The colour fastness of the shell and lining shall be tested as follows.

- a) The colour fastness to wet and dry rubbing shall be tested in accordance with ISO 105-X12. The staining shall be of a fastness grade  $\geq (3-4)$  in accordance with ISO 105-A03.
- b) The colour fastness to washing shall be tested in accordance with ISO 105-C06 at care label temperature. The staining and change of colour shall be of a fastness grade  $\geq 4$  in accordance with ISO 105-A03.