



SLOVENSKI STANDARD

SIST EN 13537:2003

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NU hŕj Y'nUgdUbY'j fY Y

Requirements for sleeping bags

Anforderungen an Schlafsäcke

Exigences relatives aux sacs de couchage

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Oprema za taborjenje in
tabori

Camping equipment and
camp-sites

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EUROPEAN STANDARD

EN 13537

NORME EUROPÉENNE

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Requirements for sleeping bags

Exigences relatives aux sacs de couchage

Anforderungen an Schlafsäcke

This European Standard was approved by CEN on 11 April 2002.

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 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 Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Contents

	page
Foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	5
4 Requirements.....	5
4.1 Fabrics.....	5
4.2 Filling	6
4.3 Finished articles.....	7
5 Marking.....	8
5.1 Graph for the ranges of utility	8
5.2 Label for marking.....	8
6 Information supplied by the manufacturer	9
Annex A (normative) Thermal properties of sleeping bags	10
Annex B (normative) Reference values of thermal insulation for calibration	15
Annex C (normative) Physiological model for calculation of range of utility	16
Annex D (informative) Warning of misuse of temperature rating	21

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Foreword

This document EN 13537:2002 has been prepared by Technical Committee CEN/TC 136 “Sports, playground and other recreational 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 January 2003, and conflicting national standards shall be withdrawn at the latest by January 2003.

It is based on an earlier draft prepared by CEN/TC 222 “Feather and down”.

Annexes A to C are normative. Annex D is informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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EN 13537:2002 (E)**1 Scope**

This European Standard specifies definitions and general requirements as well as provisions for marking and the Information supplied by the manufacturer for sleeping bags used in sports and leisure time activities.

It does not apply to sleeping bags intended for specific purpose such as e.g. military use and extreme climate zone expedition.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 1883, *Feather and down — Sampling in view of tests.*

EN 12131, *Feather and down — Test methods — Determination of the quantitative composition of a filling article (Manual method).*

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 of the mass of the filling.*

prEN 13538-1, *Manufactured articles filled with feather and down - Test methods for the determination of dimensional characteristics of sleeping bags - Part 1: Internal dimensions.*

prEN 13538-2, *Manufactured articles filled with feather and down - Test methods for the determination of dimensional characteristics of sleeping bags - Part 2: Thickness and elastic recovery*
 prEN 13538-3, *Manufactured articles filled with feather and down - Test methods for the determination of dimensional characteristics of sleeping bags - Part 3: Volume under load, inside transport cover and easiness of packing.*
 prEN 13543, *Manufactured articles filled with feather and down - Measurement of water absorption of filling material.*

EN 20139, *Textiles — Standard atmospheres for conditioning and testing (ISO 139:1973).*

EN 31092, *Textiles — Determination of physiological properties — Measurement of thermal and water-vapour resistance under steady-state conditions (sweating guarded — hotplate test) (ISO 11092:1993).*

EN ISO 105-B02, *Textiles — Tests for colour fastness — Part B02: Colour fastness to artificial light: XENON arc fading lamp test (ISO 105-B02:1994, including Amendment 1:1998).*

EN ISO 105-C06, *Textiles — Tests for colour fastness — Part C06: Colour fastness to domestic and commercial laundering (ISO 105-C06:1994).*

EN ISO 105-E04, *Textiles — Tests for colour fastness — Part E04: Colour fastness to perspiration (ISO 105-E04:1994).*

EN ISO 105-X12, *Textiles — Tests for colour fastness — Part X12: Colour fastness to rubbing (ISO 105-X12:1993).*

EN ISO 12947-1, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 1: Martindale abrasion testing apparatus (ISO 12947-1:1998).*

EN ISO 12947-2, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 2: Determination of specimen breakdown (ISO 12947-2:1998).*

EN ISO 13937-1, *Textiles — Tear properties of fabrics — Part 1: Determination of tear force using ballistic pendulum method (Elmendorf)* (ISO 13937-1:2000).

EN ISO 13937-2, *Textiles — Tear properties of fabrics — Part 2: Determination of tear force of trouser-shaped test specimens (single tear method)* (ISO 13937-2:2000).

EN ISO 13937-3, *Textiles — Tear properties of fabrics — Part 1: Determination of tear force of wing-shaped test specimens (single tear method)* (ISO 13937-3:2000).

EN ISO 13937-4, *Textiles — Tear properties of fabrics — Part 4: Determination of tear force of tongue-shaped test specimens (double tear method)* (ISO 13937-4:2000).

3 Terms and definitions

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

3.1

comfort temperature (T_{comf})

lower limit of the comfort range down to which a sleeping bag user with a relaxed posture such as lying on the back is globally in thermal equilibrium and just not feeling cold (related to standard woman and in standard condition of use)

3.2

limit temperature (T_{lim})

lower limit at which a sleeping bag user with a rolled-up body posture is globally in thermal equilibrium and just not feeling cold (related to standard man and in standard conditions of use)

3.3

extreme temperature (T_{ext})

lower extreme temperature where the risk of health damage by hypothermia occurs (related to a standard woman and in standard conditions of use)

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NOTE This is a point of danger which can lead to death.

3.4

maximum temperature (T_{max})

upper limit of comfort range; the temperature up to which a partially uncovered sleeping bag user (standard man) just does not perspire too much

4 Requirements

4.1 Fabrics

4.1.1 Down proofness

Fabrics for feather and/or down filled sleeping bags according to EN 12132-1.

Number of penetrations: maximum 12

4.1.2 Mechanical properties

4.1.2.1 Abrasion

Fabrics for feather and/or down filled sleeping bags according to EN ISO 12947-1 and EN ISO 12947-2.

No breakdown after 20 000 rubs.

EN 13537:2002 (E)**4.1.2.2 Tearing strength**

According to EN ISO 13937-1 to -4.

Lining: minimum 10 N.

Shell fabrics: minimum 10 N.

4.1.3 Colour fastness to

- a) rubbing according to EN ISO 105-X12,
minimum 3 to 4
- b) washing according to EN ISO 105-C06,
staining rating: minimum 4
change in colour: minimum 4
- c) perspiration according to EN ISO 105-E04,
staining rating: minimum 3 to 4
change in colour: minimum 3 to 4
- d) light according to EN ISO 105-B02,
minimum 4 to 5

4.2 Filling

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4.2.1 Feather and/or down**4.2.1.1 Composition**

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The manufacturer shall declare the composition of the filling material intended for feather and/or down filled sleeping bags according to EN 12934, after sampling according to EN 1883 and after testing according to EN 12131.

4.2.1.2 Hygienic state

The filling material shall conform to the requirements specified in EN 12935.

4.2.1.3 Water absorption of the filling

According to EN 13543.

Maximum 30 %

NOTE Not applicable if the temperature limit specified is above 0°.

4.2.2 All kinds of filling materials

For feather and/or down the filling mass shall be given according to EN 13088.

The measured filling mass shall not deviate by more than ± 5 % from the declared nominal mass.

For fillings other than feather and/or down, samples shall be conditioned according to EN 20139 and the filling mass shall be determined by calculating the difference in mass between the filled sample and the sample after removal of the filling material. Mass shall be reported to the nearest 1 g.

4.3 Finished articles

4.3.1 Water vapour permeability index

According to EN 31092.

Minimum index value: 0,45

4.3.2 Internal dimensions

4.3.2.1 Inside length

After care treatment the inside length for body heights 1 and 2 shall at least correspond to the dimensions given in Table 1.

Table 1 — Minimum inside dimensions

Dimensions in centimetres

Body height		Body height 1 up to 175		Body height 2 above 175 up to 195	
Sleeping bag		Mummy shaped sleeping bag	Blanket-shaped sleeping bag	Mummy shaped sleeping bag	Blanket-shaped sleeping bag
Inside length min.		180	180	200	200
Inside width min.	Foot zone w_1	48	73	53	75
	Knee zone w_2	58	73	63	75
	Shoulder zone w_3	73	73	77	75

For the calculation of the shrinkage grade the inside length as manufactured shall be determined. Measurement of the inside length is carried out according to prEN 13538-1.

4.3.2.2 Inside width

The inside width for the foot, knee and shoulder zones shall reach at least the dimensions given in Table 1 after care treatment. Measurement of the inside width is carried out according to prEN 13538-1.

4.3.3 Thermal properties in steady state conditions

Comfort, extreme and limit temperatures shall be determined according to annexes A, B and C.

Maximum temperatures can also be determined optionally according to annex A.

4.3.4 Elastic recovery

According to prEN 13538-2.

Minimum 80 %

4.3.5 Total mass

For sleeping bags filled with feather and/or down the mass shall be given according to EN 13088.

For sleeping bags filled with materials other than feather and down, samples shall be conditioned according to EN 20139 and the mass of the sleeping bag (without packing case) shall be reported to the nearest 1 g.

EN 13537:2002 (E)**4.3.6 Volume of the sleeping bag filled with feather and/or down under load**

According to prEN 13538-3.

Maximum 18 l under 50 kg.

4.3.7 Calculation of the easiness of packing of sleeping bags filled with feather and/or down

According to prEN 13538-3.

F : maximum 1

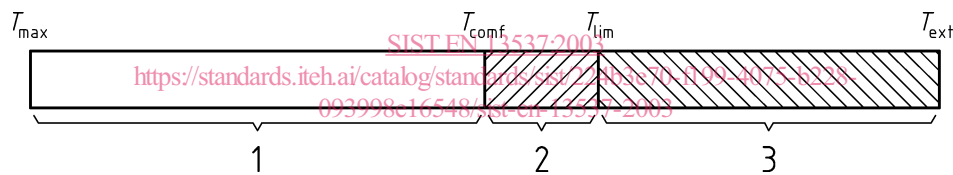
5 Marking**5.1 Graph for the ranges of utility**

The range of utility shall be given on the label for marking (see 5.2) in the form of a graph.

The transition range shall be marked. The risk range shall be marked and simultaneously the hazard existing in such environmental temperatures shall be pointed out. The comfort range can be marked.

The ranges shown in the graph shall be termed "comfort range", "transition range" and "risk range". These terms shall be given below the respective range. At the temperature limits T_{\max} , T_{comf} , T_{lim} , and T_{ext} the respective values shall be given in °C.

The graph including its given data shall be used in a linear form. An example is shown in Figure 1. The colouring and the scale of the graph can be designed freely.

**Key**

- 1 Comfort range
- 2 Transition range
- 3 Risk range

Figure 1 — Example for a graph

Below the graph a warning note shall be included with the following wording:

"In the risk range a strong sensation of cold has to be expected. There is a risk of health damage by hypothermia."

Warning of misuse of temperature rating see annex D.

5.2 Label for marking

The label for marking attached on the sleeping bag shall contain the following information:

- a) reference to this standard;
- b) composition of filling, shell fabric and lining;
- c) body height;
- d) ranges of utility (graph);

- e) mass of the sleeping bag, rounded to 50 g;
- f) care labelling;
- g) name of manufacturer or distributor;
- h) name or number of the product.

6 Information supplied by the manufacturer

Each sleeping bag shall be provided with an Information supplied by the manufacturer containing at least the following information:

- a) all information included in 5.2;
- b) inside length;
- c) inside width of shoulder zone;
- d) inside width of knee zone;
- e) inside width of foot zone;
- f) mass of the filling;
- g) volume under load.

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