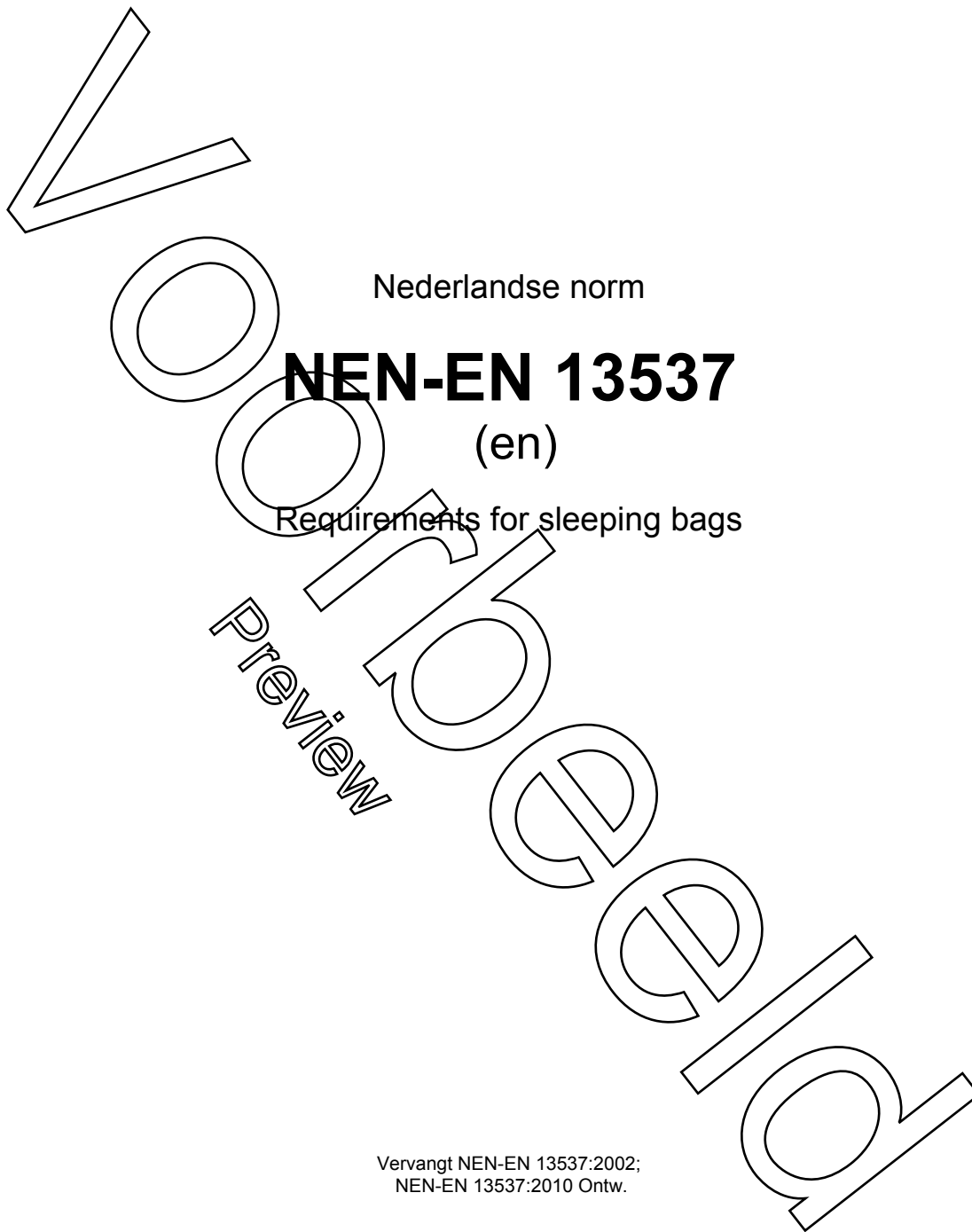


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Nederlandse norm

# **NEN-EN 13537**

(en)

Requirements for sleeping bags

Vervangt NEN-EN 13537:2002;  
NEN-EN 13537:2010 Ontw.

ICS 97.200.30  
juni 2012

Als Nederlandse norm is aanvaard:  
 - EN 13537:2012, IDT

Voorbeeld  
 Preview

Normcommissie 330042 "Sportartikelen"



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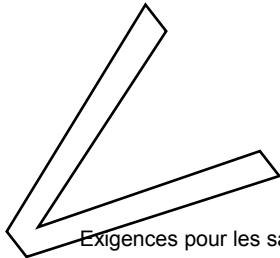
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## Nederlands voorwoord

Voor de in deze norm vermelde normatieve verwijzingen bestaan in Nederland de volgende equivalenten:

<u>vermelde norm</u>	<u>Nederlandse norm</u>	<u>titel</u>
EN 12130	NEN-EN 12130	Veren en dons - Beproevingmethoden - Bepaling van het vulvermogen (dichtheid)
EN 12132-1	NEN-EN 12132-1	Veren en dons - Beproevingmethoden voor donsduichtheid van weefsels - Deel 1: Wrijfproef
EN 12934	NEN-EN 12934	Veren en dons - Etikettering van de samenstelling van behandelde veren en dons bij gebruik als enige vulstof
EN 12935	NEN-EN 12935	Veren en dons - Hygiëne en reinheid vereisten
EN 13088	NEN-EN 13088	Artikelen gevuld met veren en dons - Methode voor de bepaling van de totale massa van een gevuld product en de massa van de vulling
EN 13538-3	NEN-EN 13538-3	Bepaling van dimensionele karakteristieken van slaapzakken - Deel 3: Volume onder belasting, tijdens transport en gemak van verpakking
EN 15586	NEN-EN 15586	Textiel - Methode van de vezelvastheidbeproeving van stoffen - Wrijfproef
EN 29073-1	NEN-ISO 9073-1	Textiel - Beproevingmethoden voor vezelvliesen - Deel 1: Bepaling van de massa per oppervlakte
EN ISO 105-B02	NEN-EN-ISO 105-B02	Textiel - Beproeving van de kleurechtheid - Deel B02: Kleurechtheid bij kunstlicht: Proef met xenonbooglamp
EN ISO 105-C06	NEN-EN-ISO 105-C06	Textiel - Beproeving van de kleurechtheid - Deel C06: Bepaling van de kleurechtheid bij huishoudelijk en industrieel wassen
EN ISO 105-E04	NEN-EN-ISO 105-E04	Textiel - Beproeving van de kleurechtheid - Deel E04 - Kleurechtheid bij zweet
EN ISO 105-X12	NEN-EN-ISO 105-X12	Textiel - Beproeving van de kleurechtheid - Deel X12: Kleurechtheid bij wrijven
EN ISO 139	NEN-EN-ISO 139	Textiel - Standaardatmosferen voor het conditioneren en de beproeving
EN ISO 3758	NEN-EN-ISO 3758	Textiel - Symbolencode op behandelingsetiketten
EN ISO 12947-1	NEN-EN-ISO 12947-1	Textiel - Bepaling van de slijtweerstand van weefsels door de Martindale methode - Deel 1: Martindale beproevingsapparatuur voor slijtweerstand
EN ISO 12947-2	NEN-EN-ISO 12947-2	Textiel - Bepaling van de slijtweerstand van weefsels door de Martindale methode - Deel 2: Bepaling van de breuk van het proefstuk
EN ISO 13937-1	NEN-EN-ISO 13937-1	Textiel - Scheureigenschappen van weefsels - Deel 1: Bepaling van de scheurkracht met gebruik van ballistische-slingermethode (Elmendorf)
EN ISO 15831	NEN-EN-ISO 15831	Kleding - Fysiologische effecten - Meting van thermische isolatie door middel van een thermische beproevingspop
ISO 11092	NEN-ISO 11092	Textiel - Bepaling van de fysiologische eigenschappen - Meting van de weerstand tegen doordringen van warmte en waterdamp onder stationaire omstandigheden ("sweating guarded - hotplate test")

Voorbeeld  
Preview



English Version

## Requirements for sleeping bags

Exigences pour les sacs de couchage

Anforderungen an Schlafsäcke

This European Standard was approved by CEN on 27 April 2012.

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## Foreword

This document (EN 13537:2012) has been prepared by 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 November 2012, and conflicting national standards shall be withdrawn at the latest by November 2012.

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

This document supersedes EN 13537:2002.

In comparison with EN 13537:2002, the following changes have been made:

- a) the calibration of thermal manikins for the measurement of thermal insulation of a sleeping bag has been introduced following the results of an extensive round robin test between 6 laboratories using a reference set of sleeping bags. This has improved the precision and reproducibility of the test results;
- b) the test procedure of the thermal resistance measurement of the sleeping bag with the thermal manikin has been specified in more detail, improving the reproducibility of the test results;
- c) a pre-treatment has been introduced for the thermal property tests for the sleeping bag;
- d) measurement of the inside dimensions of sleeping bags has been included. It was formally specified in EN 13538-1 which has been withdrawn;
- e) the thickness and elastic recovery of the sleeping bag, as determined by EN 13538-2, has been deleted from the requirements;
- f) the easiness of packaging of the sleeping bag, as determined by EN 13538-3, has been deleted from the requirements;
- g) based on new research, the extreme temperature limits in Table 1 have been recalculated and amended.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Introduction

This European Standard has been substantially revised. The objectives of the revision were to simplify the standard by deleting requirements and test methods which had not been proven to be sufficiently reproducible or which did not contribute to the safety and quality performance of sleeping bags. The revision was also conducted in order to improve the inter-laboratory variability and repeatability of the test method for determination of the thermal properties of a sleeping bag.

Since the last edition of this European Standard, products in the market have evolved to reflect the changing needs of the user. It was the intention of the committee during this revision that the standard would reflect these continuous and changing needs and not become restrictive in respect of future technology and advances in the manufacturing industry.

In buying a sleeping bag, the consumer expects (along with other aspects such as functional design, good fit, low weight and volume and durability), information regarding which temperature range the sleeping bag can be used. This temperature range serves to prevent the person in the bag feeling too cold on the one hand or too hot, combined with unpleasant sweating, on the other. The primary aim of this European Standard is to provide this information to the consumer by specifying a test procedure and an evaluation model to quantify the thermophysiological function of sleeping bags (see also Annex E).

An inter-laboratory test, involving six different laboratories, was organised within the present CEN working group on a set of six sleeping bags filled with feathers and downs and synthetics. Six human shaped thermal manikins were used, consisting of 6 to 35 independent segments and corresponding to the requirements for testing protective clothing against cold.

The test showed the following conclusions:

- even with multi-sectional manikins, the design and especially the number of independent sections can influence the value of thermal resistance by up to 20 %;
- yet the test results of thermal resistance with all manikins showed a maximum difference of 10 % (leading e.g. to a difference in  $T_{lim}$  of 3,0 °C for a sleeping bag with  $T_{lim} = 0$  °C);
- the weight of the manikin did not significantly effect the test results.



## 1 Scope

This European Standard specifies the requirements and test methods as well as provisions for labelling of adult sized sleeping bags for use in sports and leisure time activities.

This European Standard does not apply to sleeping bags intended for specific purpose such as military use and extreme climate zone expedition. It does not apply to sleeping bags for children or babies: no prediction model exists for the determination of the limiting temperatures based on the thermal resistance of the sleeping bag for these demographics. 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 permitted.

This European Standard describes the method for the assessment of the performance in steady state conditions of a sleeping bag with regard to the protection against cold.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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 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 methods for nonwovens — Part 1: Determination of mass per unit area*

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

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

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

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

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

EN ISO 3758, *Textiles — Care labelling code using symbols (ISO 3758)*

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)*

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