
Requirements for sleeping bags —

Part 1:

**Thermal, mass and dimensional
requirements for sleeping bags
designed for limit temperatures of
-20°C and higher**

Exigences pour les sacs de couchage —

*Partie 1: Exigences thermiques, de masse et dimensionnelles pour les
sacs de couchage conçus pour les températures limites de -20 °C et
plus*

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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

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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 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 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 23537-1:2016), which has been technically revised. It also incorporates the Amendment ISO 23537-1:2016/Amd.1:2018.

The main changes are as follows:

- update of [Clause 3](#);
- update of the scope to exclude extreme climate conditions;
- revision of requirements for lower temperature limits;
- revision of test methods;
- revision of [Clause 7](#);
- revision of the reference values of thermal resistance for calibration of thermal manikin.

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.

Introduction

ISO 23537-2 specifies requirements for material performance.

This document considers important aspects to the thermal performance of the sleeping bag.

In this document, consideration was given to the need to continue to reduce inter laboratory variability of the thermal testing and a number of test parameters have been tightened as a consequence.

A rationale is given in [Annex E](#).

Requirements for sleeping bags —

Part 1:

Thermal, mass and dimensional requirements for sleeping bags designed for limit temperatures of -20°C and higher

1 Scope

This document specifies the requirements, test methods and other provisions for the labelling of adult sized sleeping bags for use in sports and leisure time activities at a limit temperature $\geq -20\text{ °C}$ regarding thermal characteristics, dimensions and mass.

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

NOTE 1 Sleeping bags without homogeneous fillings designed to provide local extra insulation in certain parts pose issues with the calibration and/or test procedure. Ongoing work continues to provide suitable means of establishing temperature ratings.

This document 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.

NOTE 2 No prediction model exists for the determination of the limiting 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.

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 1096, *Plywood — Classification*

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

ISO 11092, *Textiles — Physiological effects — Measurement of thermal and water-vapour resistance under steady-state conditions (sweating guarded-hotplate test)*

ISO 15831:2004, *Clothing — Physiological effects — Measurement of thermal insulation by means of a thermal manikin*

EN 13088:2018, *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*

3 Terms and definitions

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