FINAL DRAFT
International Standard

IEC/FDIS 63517

Wearable electronic textiles - Test methods for performance of heating products - Heating temperature and power consumption

Textiles électroniques prêts à porter — Méthode d'essais de performances de produits chauffants

ISO/TC **38**

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IEC 63517 has been prepared by IEC technical committee 124: *Wearable electronic devices and technologies*, in collaboration with ISO technical committee 38: *Textiles*. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
124/XX/FDIS	124/XX/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,
– withdrawn, or
– revised.

INTRODUCTION

Wearable heating e-textile products are designed for use in cold environments, such as winter sports, military operations, and cold storage facilities.

These products are composed of both e-textile and conventional textile materials. The e-textile components generate electrical heat, while the conventional textiles help retain the warmth by insulating against the cold.

This document specifies a test method for evaluating the heating performance of wearable heating e-textile products. Heating performance, as defined in this document, includes heating temperature and power consumption in relation to heating duration.

1 Scope

This document specifies a test method for the determination of heating performance of wearable heating e-textile products. Wearable heating textile products are made of e-textile parts including a portable battery for electric heating and conventional textile parts for garments. This document includes the test procedure for the heating temperature and power consumption of wearable heating garments such as jackets, vests, etc. Heating gloves and footwear are excluded. The safety and security of heating products are excluded, as the information on thermal safety limits for heating products is addressed in IEC 60335-2-17 [1] [1] and IEC 62368-1 [2]. The performance and safety of the portable battery are also excluded.

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 10880, *Non-destructive testing - Infrared thermographic testing - General principles*

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:

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

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

3.1
wearable heating e-textile
electronic textile including a system with electrical heating function

EXAMPLE: Jumper, jacket, vest.

Note 1 to entry: Wearable heating e-textile is typically a garment.

3.2
heating part
electrical heat generating area in *wearable heating e-textile* (3.1) product

3.3
heating temperature
surface temperature of *wearable heating e-textile* (3.1) product in the direction of the wearer’s body

3.4
power consumption for heating
electrical power consumption for generating heat and maintaining the heating temperature

[1] Numbers in square brackets refer to the Bibliography.