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## Wool — Determination of percentage of medullated fibres by the projection microscope

*Laine — Détermination du pourcentage de fibres médulleuses au  
microscope à projection*



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CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://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](http://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](http://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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 23, *Fibres and yarns*.

This second edition cancels and replaces the first edition (ISO 2647:1973), which has been technically revised.

The main changes compared to the previous edition are as follows:

- the normative reference ISO/R 137 has been changed to ISO 137;
- the mandatory [Clause 3](#), “Terms and definitions”, including the terms medullated fibre ([3.1](#)), normal medullated fibre ([3.1.1](#)) and kemp fibre ([3.1.2](#)), have been added;
- the atmosphere for conditioning and testing has been revised according to ISO 139 in [Clause 6](#) (former Clause 5);
- the procedure for determining the percentage of medullated fibres has been revised in [Clause 8](#) (former Clause 7);
- the result expression has been revised in [Clause 9](#) (former Clause 8);
- the appearance images of typical fibres have been added as informative [Annex A](#);
- the Bibliography has been added.

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).

# Wool — Determination of percentage of medullated fibres by the projection microscope

## 1 Scope

This document specifies a method of test for determining the percentage of medullated wool fibres by means of the projection microscope.

The method is applicable to woollen and worsted products, at all stages, from raw materials to yarn.

## 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 137, *Wool — Determination of fibre diameter — Projection microscope method*

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

## 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:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1

#### **medullated fibre**

animal fibre containing medulla

Note 1 to entry: This includes *normal medullated fibre* (3.1.1) and *kemp fibre* (3.1.2).

#### 3.1.1

##### **normal medullated fibre**

*medullated fibre* (3.1) in which the diameter of the medulla is less than 60 % of the diameter of the fibre

Note 1 to entry: Medulla is either continuous or discontinuous.

#### 3.1.2

##### **kemp fibre**

*medullated fibre* (3.1) in which the diameter of the medulla is 60 % or more of the diameter of the fibre

## 4 Principle

Magnified images of the profiles of fibre snippets are projected on a screen, and the number of medullated fibres is counted and expressed as a percentage of the total fibres examined.