
**Wool — Determination of fibre
diameter — Projection microscope
method**

*Laine — Détermination du diamètre des fibres — Méthode du
microscope à projection*



This document is a preview generated by EMS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

	Page
Foreword.....	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Apparatus	2
6 Sampling and preparation of the test specimens	5
6.1 Raw wool.....	5
6.2 Slivers, rovings and yarns.....	5
6.3 Cutting of snippets.....	5
6.3.1 Using a fibre holder and pusher.....	5
6.3.2 Using a microtome.....	5
6.4 Mounting of test specimen.....	5
7 Test procedure	6
7.1 General.....	6
7.2 Examination of the test specimen.....	6
7.3 Focusing.....	7
7.4 Measuring the width of a fibre image.....	7
7.5 Recording of measurements.....	8
8 Measurement procedure	8
9 Calculation and expression of results	8
10 Test report	9
Annex A (informative) Example of calculation	10
Annex B (informative) Accuracy of results and confidence limits for mean	12
Bibliography	13

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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 38, *Textiles*, Subcommittee SC 23, *Fibres and yarns*.

This second edition cancels and replaces the first edition (ISO 137:1975), which has been technically revised.

This second edition to ISO 137 is based on the test method IWTO-8:2011, drawn up by the International Wool Textile Organization (IWTO).

Wool — Determination of fibre diameter — Projection microscope method

1 Scope

This International Standard specifies the procedure and the measurement conditions for the determination of the wool fibre diameter using a projection microscope.

The method is suitable for wool fibres in any form and also for other fibres of reasonably circular cross-section. (In the case of dyed, bleached or finished fibres, the diameter might be different from that of fibres not subjected to such treatments. The estimates of fibre diameter obtained at the various stages of processing one lot of wool will not necessarily be the same.)

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.

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

ISO 1130:1975, *Textile fibres — Some methods of sampling for testing*

3 Terms and definitions

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

3.1

mean diameter

average value of the projected width of either the wool fibre or another fibre of reasonably circular cross-section

3.2

total sample

sample intended to be representative of a large bulk of material, in the state in which it is sent to the laboratory

Note 1 to entry: The total sample is prepared according to the procedure specified in ISO 1130.

3.3

subsample

sample randomly drawn from and representative of the total sample, which has been suitably cleaned, dried and conditioned where appropriate

3.4

test specimen

part of a subsample which is tested at one time

4 Principle

Projection on a screen of the magnified images of the profiles of wool fibre snippets, and measurement of their width by means of a graduated scale. The operating technique ensures a random sampling of the fibres to be measured.