
**Textiles — Cotton fibres — Evaluation
of maturity by the air flow method**

*Textiles — Fibres de coton — Évaluation de la maturité par la
méthode à courant d'air*



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Published in Switzerland

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Foreword

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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).

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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 10306:1993), of which it constitutes a minor revision.

Introduction

The term “cotton fibre maturity” is commonly used to signify the relative degree of fibre wall development. The measurement of the relative degree of wall thickening is too laborious for most practical purposes, therefore the determination of the maturity of cotton fibres is done by indirect methods. A microscopic method is described in ISO 4912:1981. This method has been used as a reference method for the industrial evaluation of the maturity of cotton fibres using air flow instruments, which is the object of this standard.

Textiles — Cotton fibres — Evaluation of maturity by the air flow method

1 Scope

This International Standard specifies a method for the evaluation of the maturity of loose randomized cotton fibres by measuring the resistance to air flow of a plug of cotton fibres under two prescribed conditions. The method is applicable to cotton taken at random from bales. Laps and slivers or other sources of lint cotton may be tested, however results may differ if fibres are taken from bales.

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 139:2005, *Textiles — Standard atmospheres for conditioning and testing*

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

ISO 2403:2014, *Textiles — Cotton fibres — Determination of micronaire value*

ISO 4912:1981, *Textiles — Cotton fibres — Evaluation of maturity — Microscopic method*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4912:1981 and ISO 2403:2014 apply. The following terms and definitions are repeated here for the convenience of the user.

3.1

immature fibre

fibre which, upon swelling, either assumes a spiral form or lies flat, thinly outlined and almost transparent

Note 1 to entry: It has a wall thickness of less than one-fourth of the maximum fibre width.

[SOURCE: ISO 4912:1981]

3.2

mature fibres

fibres, the cell walls of which have developed sufficiently so that upon swelling, they become unconvoluted and almost rod-like in shape

Note 1 to entry: Such fibres have a wall thickness equal to or greater than one-fourth of the maximum fibre width.

[SOURCE: ISO 4912:1981]

3.3

maturity ratio, M

ratio of the degree of wall thickening to a standard degree of thickening selected arbitrarily to equal 0,577

[SOURCE: ISO 4912:1981]