
**Textiles — Methods for analysis of
woven fabrics construction —**

**Part 5:
Determination of linear density of
yarn removed from fabric**

Textiles — Méthodes d'analyse de la construction des tissus —

*Partie 5: Détermination de la masse linéique d'un fil prélevé dans
un tissu*



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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 38, *Textiles*, Subcommittee SC 24, *Conditioning atmospheres and physical tests for textile fabrics*.

This second edition cancels and replaces the first edition (ISO 7211-5:1984), of which it constitutes a minor revision.

The changes compared to the previous edition are as follows:

- the normative reference to ISO/TR 5090 (withdrawn) has been replaced by ISO 1833-1;
- the normative reference to ISO/TR 6741-4 (withdrawn) has been replaced by a reference to the “agreed moisture regain” (same sentence as in ISO 1833-1);
- the mandatory [Clause 3](#), Terms and definitions, has been added and subsequent clauses have been renumbered;
- the formulae in [Clause 10](#) have been editorially revised to comply with the ISO Directives.

A list of all parts in the ISO 7211 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

The method for determining the linear density of yarn from a fabric differs from that of yarn from a package in that, in the former instance, the crimp imposed upon the yarn by the interlacing of warp and weft should be taken into account. Also, the long lengths of yarn used in tests from a package might not conveniently be taken from a fabric. The results obtained might be subject to appreciable personal error unless a standard method is adopted and adequate samples are taken.

[Clause 8](#) specifies the method for determination of the linear density of yarn removed from fabric, without removal of non-fibrous matter and [Clause 9](#) specifies the method for determination of linear density of yarn removed from fabric after removal of non-fibrous matter.

It is noteworthy that the linear density of yarn obtained by these methods might not be same as that of the original yarn used in the fabric.

Textiles — Methods for analysis of woven fabrics construction —

Part 5:

Determination of linear density of yarn removed from fabric

1 Scope

This document specifies methods for the determination of linear density of yarn removed from fabric. It relates to yarns of nominally uniform linear density. It describes the method of removing threads from fabric, and specifies the number of threads whose straightened length is to be determined and the methods of determining the mass of all the threads.

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 1833-1, *Textiles — Quantitative chemical analysis — Part 1: General principles of testing*

ISO 7211-3, *Textiles — Woven fabrics — Construction — Methods of analysis — Part 3: Determination of crimp of yarn in fabric*

3 Terms and definitions

No terms and definitions are listed in this document.

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/>

4 Principle

Threads are removed from rectangular strips of fabric, the straightened length of a portion of them is determined and their mass is determined either in equilibrium with the standard atmosphere for testing (method A) or oven-dry plus the agreed moisture regain (method B). Linear density is calculated from the mass and the sum of the straightened lengths.

NOTE The agreed moisture regain of each fibre is specified in some regional legislation or after agreement between interested parties.

When heating to 105 °C is likely to cause appreciable loss of volatile matter other than water, it is recommended to use method A.

The determination can be carried out without removal of nonfibrous matter (see [Clause 8](#)), or after removal of non-fibrous matter (see [Clause 9](#)).