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International Standard 7211/5

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Textiles — Woven fabrics — Construction — Methods of analysis — Part 5: Determination of linear density of yarn removed from fabric

Textiles — Tissus — Construction — Méthodes d'analyse — 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 developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 7211/5 was developed by Technical Committee ISO/TC 38, *Textiles*, and was circulated to the member bodies in November 1982.

It has been approved by the member bodies of the following countries:

Australia	India	Portugal
Belgium	Iran	Romania
Brazil	Iraq	South Africa, Rep. of
Bulgaria	Israel	Spain
Canada	Italy	Sweden
China	Jamaica	Tanzania
Czechoslovakia	Japan	Thailand
Egypt, Arab Rep. of	Korea, Rep. of	Turkey
Finland	Mexico	United Kingdom
Germany, F.R.	Netherlands	USA
Ghana	New Zealand	USSR
Hungary	Poland	Venezuela

The member body of the following country expressed disapproval of the document on technical grounds:

France

Textiles — Woven fabrics — Construction — Methods of analysis — Part 5: Determination of linear density of yarn removed from fabric

0 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 must be taken into account. Also, the long lengths of yarn used in tests from a package may not conveniently be taken from a fabric. The results obtained may be subject to appreciable personal error unless a standard method is adopted and adequate samples are taken.

This part of ISO 7211 is divided into four sections. Sections one and four deal with items applicable to both methods; section two specifies the method for determination of the linear density of yarn removed from fabric, without removal of non-fibrous matter; and section three specifies the method for determination of linear density of yarn removed from fabric after removal of non-fibrous matter.

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

Section one: General

1 Scope and field of application

This part of ISO 7211 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 References

ISO 139, *Textiles — Standards atmospheres for conditioning and testing.*

ISO/TR 5090, *Textiles — Method for the removal of non-fibrous matter prior to quantitative analysis of fibre mixtures.*

ISO 6741/4, *Textiles — Fibres and yarns — Determination of commercial mass of consignments — Part 4: Values used for commercial allowances and commercial moisture regains.*¹⁾

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

3 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 commercial allowance given in ISO 6741/4 (method B). Linear density is calculated from the mass and the sum of the straightened lengths.

When heating to 105 °C is likely to cause appreciable loss of volatile matter other than water, method A should be used.

The determination may be carried out without removal of non-fibrous matter (section two), or after removal of non-fibrous matter (section three).

4 Apparatus

4.1 Balance, accurate to 0,1 % of the smallest quantity to be weighed.

4.2 Apparatus for determining the straightened length of threads (see apparatus specified in ISO 7211/3).

4.3 Ventilated drying oven (method B).

5 Conditioning and testing atmosphere

The standard atmospheres for pre-conditioning, conditioning and testing textiles specified in ISO 139 shall be used.

6 Test specimens

Expose to the atmosphere for testing for at least 24 h sufficient fabric, which should preferably include yarn from at least five weft packages, to provide the required number of test specimens.

Cut from the conditioned fabric at least two rectangular strips containing different warp ends for determining the linear density of warp yarns, and at least five rectangular strips representing different weft packages for determining the linear density of weft yarns.

NOTE — All the strips should preferably be of the same length and about 50 cm long. Their width should be such as to contain at least 50 lengths of either warp or weft yarn, whichever is under examination.

Obtain the threads from these strips as required as specified in ISO 7211/3. During these operations, keep warp threads separate from weft threads.

1) At present at the stage of draft Technical Report.