
International Standard



7211/6

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Textiles — Woven fabrics — Construction — Methods of analysis —

Part 6: Determination of the mass of warp and weft per unit area of fabric

Textiles — Tissus — Construction — Méthodes d'analyse — Partie 6: Détermination de la masse des fils de chaîne et de trame par unité de surface dans un tissu

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Foreword

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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 7211/6 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
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The member body of the following country expressed disapproval of the document on technical grounds:

France

Textiles — Woven fabrics — Construction — Methods of analysis —

Part 6: Determination of the mass of warp and weft per unit area of fabric

0 Introduction

It is common practice to describe fabrics by the mass per unit area (see ISO 3801) and the ends and picks per centimetre, but this leaves the proportions of warp and weft in the fabric uncertain. Any desired balance of cover between warp and weft can be stated without specifying the yarn linear densities by giving separate values for the masses of warp and weft per unit area of the fabric.

1 Scope and field of application

This part of ISO 7211 specifies methods for determining the mass of the warp and weft threads per unit area of fabric after the removal of any non-fibrous matter.

2 References

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

ISO 3801, *Textiles — Woven fabrics — Determination of mass per unit length and mass per unit area*.

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

3 Principle

Method A: The outline of the fabric specimen to be dissected is marked in the form of a square or rectangle, and the non-fibrous matter is removed while the marked area still forms part of a larger sample and the threads cannot, therefore, be lost from it. If the amount of non-fibrous matter is to be determined, it is stipulated that the larger sample shall be a square cut with its diagonals parallel to the directions of the threads in the fabric. If the amount of non-fibrous matter has not to be determined, the larger sample may be of any shape or size.

Method B: A specimen of known area is dissected and the non-fibrous matter is removed from the warp and weft threads.

4 Apparatus

4.1 Indelible marking ink.

4.2 Scissors.

4.3 Dissection needle.

4.4 **Small template**¹⁾ to mark (or a **die** to cut) a square or a rectangle of known area of not less than 150 cm². The length to width ratio of the rectangle shall not exceed 4.

4.5 **Large template**, to mark (or a **die** to cut) a square which is sufficiently large to enclose the area marked with the smaller template (4.4) when placed with its diagonals parallel to the sides of the enclosed square or rectangle.

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

5 Conditioning and testing atmosphere

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

6 Test specimens

6.1 Conditioning

Before marking or cutting, expose the samples from which the test specimens will be removed to the standard atmosphere for conditioning until it is in equilibrium with that atmosphere.

Take the specimens from each sample.

6.2 Method A

With the aid of the large template (4.5), mark in pencil on the sample a square with its diagonals in the direction of the warp and weft threads. In the centre of the square, and with the aid

1) A suitable template is 15,8 cm × 15,8 cm; the yarn mass in grams multiplied by 40 gives the number of grams per square metre.