INTERNATIONAL STANDARD 3801

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Textiles — Woven fabrics — Determination of mass per unit length and mass per unit area

Textiles — Tissus — Détermination de la masse par unité de longueur et de la masse par unité de surface

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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 3801 was developed by Technical Committee ISO/TC 38, *Textiles,* and was circulated to the member bodies in September 1976.

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

Australia	Germany	Norway
Belgium	Hungary	Poland
Bulgaria	India	Romania
Canada	Iran	South Africa, Rep. of
Chile	Ireland	Spain
Czechoslovakia	Italy	Sweden
Denmark	Korea, Rep. of	Switzerland
Egypt, Arab Rep. of	Mexico	United Kingdom
Finland	Netherlands	U.S.S.R.
France	New Zealand	Yugoslavia

No member body expressed disapproval of the document.

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Textiles — Woven fabrics — Determination of mass per unit length and mass per unit area

0 INTRODUCTION

The mass per unit length and per unit area of a fabric may be determined in more than one way. For some fabrics, mass per unit length and mass per unit area are related simply by the width of the fabric, but for other fabrics variations in structure (whether in the selvedges or in the body of the fabric) may introduce an important distinction between mass per unit length and mass per unit area. It is important, therefore, to consider all the possible methods and to choose one appropriate to the fabric, and particular attention is drawn to the fact that the size of specimens used in method 5 may not be sufficient when fabrics with large patterns are being tested. In these instances, this method would not be suitable in cases of dispute. A choice must also be made between test methods suitable for samples or specimens of cloth (i.e. short lengths or cuttings) and those suitable for application to fabric in bulk, i.e. in the piece (the normal unit of production). If a cutting has been taken as a representative sample of a batch of pieces, it may be advisable to use the results of the tests on the sample to correct measurements and masses of the unconditioned pieces. Circumstances may well call for the use of any of these methods of determining fabric mass; none of them is so much more accurate than the others as to justify its being set up as the sole standard method. Specific circumstances should, therefore, govern choices between mass per unit length and mass per unit area and between a method applicable to samples and a method applicable to pieces.

1 SCOPE AND FIELD OF APPLICATION

1.1 This International Standard specifies methods for the determination of

a) the mass per unit length, and

b) the mass per unit area

of woven fabrics that have been conditioned in the standard atmosphere for testing.

1.2 The methods are applicable to woven fabrics (including those of the "stretch" type) made up full width or folded down the middle, and apply to the determination of the fabric mass of complete pieces as well as of sample lengths.

2 REFERENCES

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

ISO 3932, *Textiles — Woven fabrics — Determination of length.*

ISO 3933, *Textiles — Woven fabrics — Determination of width.*

3 PRINCIPLE

3.1 Methods 1 and 3

When the piece or the sample length can be conditioned in the standard atmosphere for testing, the length and the mass of the fabric are determined and the mass per unit length calculated, or the length, width, and mass of the fabric are determined and the mass per unit area calculated, as relevant.

3.2 Methods 2 and 4

When it is impracticable to condition the whole piece in the standard atmosphere for testing, the length (and width) and the mass of the piece are determined after relaxation in the prevailing atmosphere, and the mass per unit length (mass per unit area) is calculated and corrected by application of a correction factor, determined by comparison of the length (and width) and the mass of a specific portion cut from the piece after relaxation, and measured firstly in the ambient atmosphere and then in the standard atmosphere for testing.

3.3 Method 5

When it is required to test a small sample, the mass per unit area is determined by exposing the small samples taken from this sample, to the standard atmosphere for testing textiles until they are in equilibrium with that atmosphere. Specimens of known dimensions are then taken and weighed and the mass per unit area is calculated.