
INTERNATIONAL STANDARD 4602

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Textile glass — Woven fabrics — Determination of number of yarns per unit length of warp and weft

Verre textile — Tissus — Détermination du compte de fils de chaîne et de duites par unité de longueur

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (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 set up 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 4602 was developed by Technical Committee ISO/TC 61, *Plastics*, and was circulated to the member bodies in August 1976.

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

Australia	Germany	Mexico
Austria	Hungary	Netherlands
Belgium	India	New Zealand
Brazil	Iran	Poland
Bulgaria	Ireland	Portugal
Canada	Israel	Sweden
Chile	Italy	Turkey
Czechoslovakia	Japan	United Kingdom
Finland	Korea, Rep. of	U.S.A.

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

Switzerland

Textile glass — Woven fabrics — Determination of number of yarns per unit length of warp and weft

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method of determining the number of yarns per unit length of warp and weft of a textile glass fabric.

2 PRINCIPLE

Counting the number of yarns in warp and weft over a specified distance using a suitable yarn-counting device.

3 APPARATUS

3.1 Suitable yarn-counting device, for example counting glass or traversing thread counter.

3.2 Dissection needle, if required, for separating yarns.

4 TEST SPECIMEN

4.1 Measurements shall be taken on areas free from creases or deformation.

4.2 The measurements may be taken as follows :

- either on the entire fabric;
- or on a strip of fabric at least 600 mm wide taken from the entire width of the fabric.

5 PROCEDURE

5.1 Use the yarn-counting device (3.1) to make five determinations, each at a different place. These determinations shall be made parallel or perpendicular to the selvage, but not closer than 50 mm to the edges and selvages of the sample of the textile glass fabric.

5.2 Lay the fabric smoothly and without tension on a horizontal surface. Place the counting glass or counting device on the fabric so that the left-hand edge of the aperture of the counting glass or reference mark on the counting device is coincident with the right-hand edge of a yarn.

5.2.1 When a textile glass fabric has three or fewer yarns per 10 mm of fabric, count the total number of yarns across a length of not less than 100 mm of the fabric. Measure the exact length from the initial reference point of the counting device to the right-hand side of the last counted yarn.

5.2.2 When a textile glass fabric has more than three yarns per 10 mm of fabric, count the total number of yarns across a length of 100 mm of the fabric.

5.3 Consider this as one determination. Move the counting glass or counting device to another position so that none of the yarns in the previous test is included, and repeat the above procedure four more times.

6 EXPRESSION OF RESULTS

6.1 Calculate, for each of the five determinations, the number of warp and weft yarns per 10 mm in the textile glass fabric, according to the formula

$$N_i = \frac{n_i \times 10}{a_i}$$

where

N_i is the number of yarns per distance of 10 mm;

n_i is the number of yarns counted;

a_i is the distance over which the measuring took place, in millimetres, i.e. 100 mm (or the usual distance in millimetres for glass textile having three yarns or less per 10 mm).

6.2 Calculate the average number of warp yarns and the average number of weft yarns per unit length of the textile glass fabric as the arithmetic mean of the five determinations taken in each direction.

6.3 Express the number of warp and weft yarns per unit length of the textile glass fabric, to one decimal place, as the number of yarns per 10 mm.

7 TEST REPORT

The test report shall include the following particulars :

- a) a reference to this International Standard;
- b) a complete reference to the textile glass fabric tested;
- c) the average values and the individual values of the number of yarns per unit length of warp and weft, respectively;
- d) details of procedure not provided for in this International Standard and any incidents which might have had an influence upon the results.

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