
INTERNATIONAL STANDARD



4605

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

Textile glass — Woven fabrics — Determination of mass per unit area

Verre textile — Tissus — Détermination de la masse surfacique

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Descriptors : glass cloth, physical tests, measurement, specific surface, test specimen conditioning.

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 4605 was developed by Technical Committee ISO/TC 61, *Plastics*, and was circulated to the member bodies in November 1976.

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

Australia	Israel	Romania
Austria	Italy	Sweden
Belgium	Japan	Switzerland
Brazil	Korea, Rep. of	Turkey
Canada	Mexico	United Kingdom
Czechoslovakia	Netherlands	U.S.A.
Finland	Philippines	Yugoslavia
Germany, F.R.	Poland	
India	Portugal	

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

Ireland

Textile glass — Woven fabrics — Determination of mass per unit area

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the mass per unit area of textile glass fabrics.

2 REFERENCES

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

ISO 291, *Plastics — Standard atmospheres for conditioning and testing.*

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

3 DEFINITION

For the purpose of this International Standard, the following definition applies.

mass per unit area: The ratio of the mass of a test specimen, of specified dimensions, to its surface area. This mass includes the textile glass yarns, the size, and the finish, if any.

4 PRINCIPLE

Weighing of test specimens of known surface area after conditioning in a specified atmosphere.

5 APPARATUS

5.1 Polished metal template, of dimensions 400 ± 1 mm by 250 ± 1 mm.

Other dimensions may be used to produce a specimen of area $0,1 \text{ m}^2$.

5.2 Suitable tool for trimming, for example a knife or scissors.

5.3 Container, made of stainless steel.

5.4 Balance, capable of weighing to an accuracy of 0,1 % of the total mass.

6 TEST SPECIMENS

A strip of at least 1 000 mm shall be cut from across the whole width of the textile glass fabric. The template (5.1) shall be placed on this strip and the specimens cut out with a trimming tool (5.2).

Take one test specimen for every 500 mm of width of glass fabric tested and at least 3 test specimens. The test specimens, as evenly distributed as possible, shall be cut from the sample in a diagonal manner and not closer than 50 mm to the edges and selvages (see the figure).

NOTE — Test specimens may be cut parallel to the warp and weft yarns of the textile strip, if the type of weave and/or width of the textile glass fabric makes it necessary.

7 CONDITIONING AND TESTING ATMOSPHERES

The test specimens shall be conditioned for 6 h in the chosen standard atmosphere specified in ISO 291 or ISO 139.

The tests shall be performed in the same atmosphere.

8 PROCEDURE

Weigh the container (5.3) to an accuracy of 0,1 %, m_1 being its mass in grams.

Place the test specimen in the container.

Weigh the test specimen plus container to an accuracy of 0,1 %, m_2 being the total mass in grams.

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9 EXPRESSION OF RESULTS

Calculate the mass per unit area, ρ_A , in grams per square metre, of each test specimen, according to the formula

$$\rho_A = \frac{m_2 - m_1}{A}$$

where

m_1 is the mass, in grams, of the container;

m_2 is the mass, in grams, of the test specimen and container;

A is the area, in square metres, of the test specimen, i.e. 0,1 m².

The mass per unit area of the textile glass fabric is the arithmetic mean of the values obtained for each test specimen.

10 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 standard conditioning and testing atmosphere chosen from ISO 291 or ISO 139;
- d) the orientation of the test specimens with respect to the warp and weft yarns, if not diagonal;
- e) the average value of mass per unit area and the individual values, in grams per square metre;
- f) details of any procedure not specified in this International Standard and any circumstances likely to have had an influence on the results.

Dimensions in millimetres

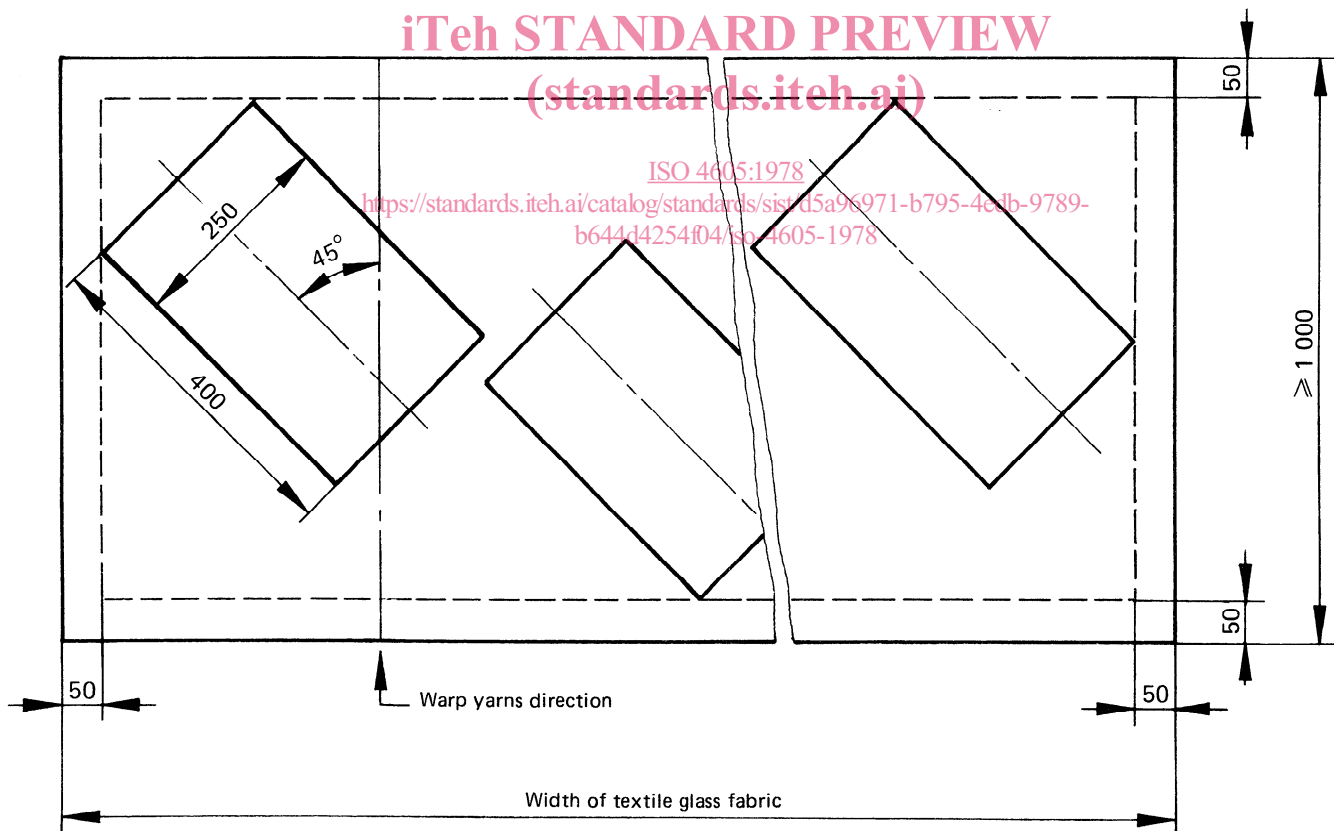


FIGURE — Example of diagonal positioning of test specimens on textile glass fabric sample (not to scale)