INTERNATIONAL STANDARD

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Textile glass — Woven fabric — Determination of tensile breaking force and elongation at break by the strip method

Verre textile — Tissus — Détermination de la force de rupture en traction et de l'allongement à la rupture par la méthode de la bande

Reference number
ISO 4606:1995(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 4606 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 13, *Composites and reinforcement fibres*.

This second edition cancels and replaces the first edition (ISO 4606:1979), of which it constitutes a technical revision.

Annex A of this International Standard is for information only.

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Textile glass — Woven fabric — Determination of tensile breaking force and elongation at break by the strip method

1 Scope

This International Standard specifies a method for the determination of the tensile breaking force and elongation at break of frayed strips of woven textile glass fabrics conditioned in a standard test atmosphere.

The method is applicable to unimpregnated textile glass fabrics and to textile glass fabrics that have been impregnated with sizing or stiffening materials, but not to fabrics coated with rubber or plastics (see annex A for informative references).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 139:1973, *Textiles — Standard atmospheres for conditioning and testing.*

ISO 291:1977, *Plastics — Standard atmospheres for conditioning and testing.*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 initial gauge length: The length of a specimen under a specified pre-tensioning force, measured from nip to nip of the jaws of the clamps holding the specimen, with the clamps in their starting position.

3.2 breaking force: The maximum force applied to a test specimen in stretching it to rupture.

3.3 elongation; extension: The increase in length of a specimen under tension, usually expressed as a percentage of the initial length.

4 Principle

A strip of woven fabric is stretched to rupture by a suitable mechanical apparatus which indicates the breaking force and the elongation at break. The breaking force and the elongation at break may be determined either by taking readings directly from the indicating instruments on the apparatus or from an autographic force/extension curve.

Provision is made for two different types of test specimen:

— Type I is intended for use with stiff fabrics (e.g. scrim fabrics made with coarse yarns, i.e. yarns with a linear density greater than or equal to 300 tex, or fabrics in which the yarns are bonded to each other by a finish or stiffening).

— Type II is intended for more pliable fabrics, due to its easier handling, and thereby reduction of the experimental error.

5 Apparatus

5.1 Tensile-testing machine

The tensile-testing machine shall comprise the elements described in 5.1.1 to 5.1.4.