INTERNATIONAL STANDARD

ISO 3341

Third edition
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Textile glass — Yarns — Determination of breaking force and breaking elongation

Verre textile — Fils — Détermination de la force de rupture et de l'allongement à la rupture en traction

Reference number
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 3341 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 13, *Composites and reinforcement fibres*.

This third edition cancels and replaces the second edition (ISO 3341:1984), which has been technically revised.

Textile glass — Yarns — Determination of breaking force and breaking elongation

1 Scope

1.1 This International Standard specifies a method for the determination of the tensile breaking force and elongation at break of glass yarns taken from packages.

1.2 The method is applicable to various types of glass yarn (single, folded, cabled, strands, structures without twist, rovings, etc.). It is basically intended for single, folded and cabled glass yarns having a diameter of less than 2 mm, or a linear density lower than 2 000 tex, taken from packages. Heavier yarns may be also tested providing the test conditions are acceptable to all interested parties.

1.3 The method is not applicable to glass yarns which, in equilibrium with the standard atmosphere and under a pre-tension of 5 mN/tex, are elongated by more than 0,5 %. Such yarns can be tested using a lower pre-tension (for example 2,5 mN/tex or 1 mN/tex), acceptable to all interested parties. This would occur mainly when dealing with staple-fibre yarns.

NOTE 1 Though the determination may be run on beamed yarn or on yarns taken from fabrics, the results must be considered as indicative only.

NOTE 2 This test method is primarily intended for material characterization and quality control. Fibre-to-fibre abrasion and other factors such as insufficiently uniform tension (catenary) will increase variability and generate low test values. This will consequently impede accurate correlation between performance of the yarns and end use applications. Extreme care should be taken in considering this method for specification purposes.

NOTE 3 Though this International Standard provides the possibility of determining the elongation at break, this practice is not recommended, however. Indeed, a correct assessment of the elongation will only be obtained using an extensometer; it will not be obtained by measuring the distance traversed by the moving clamp. On the other hand, experience shows that the use of an extensometer is quite delicate and often causes damage to the specimen.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 291:1997, *Plastics — Standard atmospheres for conditioning and testing*.

ISO 1889:1997, *Reinforcement yarns — Determination of linear density*.

3 Terms and definitions

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

3.1
breaking force
the force (or load) required to break the test specimen in a tensile test carried to rupture, usually expressed in newtons

