INTERNATIONAL STANDARD

ISO 2062

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Textiles — Yarns from packages — Determination of single-end breaking force and elongation at break

Textiles — Fils sur enroulements — Détermination de la force de rupture et l'allongement à la rupture du fil individuel

Reference number
ISO 2062:1993(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 2062 was prepared by Technical Committee ISO/TC 38, *Textiles*, Sub-Committee SC 5, *Yarn testing*.

This second edition cancels and replaces the first edition (ISO 2062:1972), which has been technically revised.

Annex A of this International Standard is for information only.

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Introduction

In the 1950s and 1960s when this International Standard was first prepared, three types of tensile tester were in wide use: constant rate of specimen extension (CRE), constant rate of travel (CRT), and constant rate of loading (CRL). It was therefore advisable to state the rate of operation in a way which would be common to all three types of tester. In addition, the best possible agreement was sought between test results of the three types of tester. Consequently, the principle of constant time to break was adopted and 20 s to break was chosen for this International Standard and also for a number of national standards.

In the early 1990s when the present revision was prepared, CRE testers were recognized as the best type, while CRT and CRL testers were quickly becoming obsolete. However, since CRT and CRL testers are still in use internationally, the procedure for using them is included in an informative annex. There is no assurance that the results from the three types of tester will agree.

This International Standard considers CRE testers only, so the time-to-break principle is no longer needed and a simpler statement of rate of displacement is used. The rate of extension of 100 % per minute is adopted as standard, but higher rates are permitted by agreement for automatic testers.

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Textiles — Yarns from packages — Determination of single-end breaking force and elongation at break

1 Scope

1.1 This International Standard specifies methods for the determination of the breaking force and elongation at break of textile yarns taken from packages.

Four methods are given:

— A: manual; specimens are taken directly from conditioned packages;

— B: automatic; specimens are taken directly from conditioned packages;

— C: manual; relaxed test skeins are used after conditioning;

— D: manual; specimens are used after wetting.

1.2 Method C should be used in cases of dispute regarding elongation at break of the yarn.

NOTE 1 Methods A, B and C are expected to give the same results for yarn strength but method C may give somewhat truer (and higher) values of elongation than A or B. Method D is likely to give results differing, for both breaking force and elongation at break, from those obtained by method A, B or C.

1.3 This International Standard specifies methods using constant rate of specimen extension (CRE) tensile testers. Testing on the now obsolete constant rate of travel (CRT) and constant rate of loading (CRL) instruments is covered, for information, in annex A, in recognition of the fact that these instruments are still popular and may be used by agreement.

1.4 This International Standard applies to all types of yarn except glass yarns, elastomeric yarns, aramid yarns, ceramic yarns, carbon yarns and polyolefin tape yarns.

NOTE 2 A method for the testing of glass yarns is given in ISO 3341:1984, *Textile glass — Yarns — Determination of breaking force and breaking elongation.*

1.5 This International Standard is applicable to yarns from packages but can be applied to yarns extracted from fabrics, subject to agreement between the interested parties.

1.6 It is intended for the single-end (single-strand) testing of yarns.

NOTE 3 The skein method of testing is given in ISO 6939:1988, *Textiles — Yarns from packages — Method of test for breaking strength of yarn by the skein method.*

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 2060:—[1], *Textiles — Yarn from packages — Determination of linear density (mass per unit length) by the skein method.*

3 Definitions

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

1) To be published. (Revision of ISO 2060:1972)