

INTERNATIONAL STANDARD

**ISO
4646**

Second edition
1989-07-15

Rubber- or plastics-coated fabrics — Low-temperature impact test

Supports textiles revêtus de caoutchouc ou de plastique — Essai de choc à basse température



Reference number
ISO 4646 : 1989 (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 approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 4646 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*.

This second edition cancels and replaces the first edition (ISO 4646 : 1978), clauses 3, 7 and 8 of which have been technically revised.

Annex A of this International Standard is for information only.

Rubber- or plastics-coated fabrics — Low-temperature impact test

1 Scope

1.1 This International Standard specifies a procedure for determining the lowest temperature at which fabrics coated with rubber or plastics will not exhibit fractures or coating cracks when subjected to specific impact conditions.

1.2 Fabrics coated with rubber or plastics are used in many applications involving low-temperature flexing with or without impact. Data obtained by this method may be used to predict the behaviour of these coated fabrics at low temperatures only in the applications in which the conditions of deformation are similar to those specified in the 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 listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2231 : 1989, *Rubber- or plastics-coated fabrics — Standard atmospheres for conditioning and testing*.

ISO 2286 : 1986, *Rubber- or plastics-coated fabrics — Determination of roll characteristics*.

3 Apparatus

A number of different impact testers are available commercially.¹⁾ The apparatus used shall meet the requirements specified below for certain of the components.

3.1 Test piece clamps and striking arm (see figure 1).

The test piece clamps shall be designed to hold the test piece or pieces as a cantilever beam. Each individual test piece shall be held firmly and securely in the clamps without causing distortion to the test piece.

The striking edge shall move relative to the test piece(s) along a trajectory normal to the upper surface of the test piece at a linear speed of 1,8 m/s to 2,1 m/s at impact and during at least the following 6 mm of travel after impact. In order to maintain this velocity consistently within the heat-transfer medium (3.3), the striking arm shall be positively driven. It may be necessary in some cases to reduce the number of test pieces tested at one time (see annex A).

The striking edge shall have a radius of $1,6 \text{ mm} \pm 0,1 \text{ mm}$.

The striking arm and the test piece clamps shall have a clearance at and immediately following impact in accordance with the dimensions listed in table 1.

3.2 Insulated tank.

1) Any impact tester may be used which is found to be suitable for performing the test. Impact testers which have been reported as suitable are obtainable in the UK from H.W. Wallace, 172 St. James's Road, Croydon CR9 2HR, and in the USA from Testing Machines Inc., 400 Bayview Avenue, Amityville L.I., NY 11701 and from Precision Scientific Co., 3737 W. Cortland St., Chicago, IL 60647.