SLOVENSKI STANDARD
SIST EN ISO 7854:1999

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Gumirane ali plastificirane tekstilije - Ugotavljanje odpornosti proti poškodbam zaradi upogibanja (ISO 7854:1995)

Rubber- or plastics-coated fabrics - Determination of resistance to damage by flexing (ISO 7854:1995)

Mit Kautschuk oder Kunststoff beschichtete Textilien - Bestimmung der Beständigkeit gegen Beschädigung durch Biegen (ISO 7854:1995)

Supports textiles revetus de caoutchouc ou de plastique - Détermination de la résistance a la flexion (ISO 7854:1995)

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59.080.40	Površinsko prevlečene tekstilije	Coated fabrics

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English version

Rubber- or plastics-coated fabrics - Determination of resistance to damage by flexing (ISO 7854:1995)

Supports textiles revêtus de caoutchouc ou de plastique - Détermination de la résistance à la flexion (ISO 7854:1995)

Mit Kautschuk oder Kunststoff beschichtete Textilien - Bestimmung der Beständigkeit gegen Beschädigung durch Biegen (ISO 7854:1995)

This European Standard was approved by CEN on 1996-12-06. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Foreword

The text of the International Standard from Technical Committee ISO/TC 45 "Rubber and rubber products" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 248 "Textiles and textile products", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 1997, and conflicting national standards shall be withdrawn at the latest by September 1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 7854:1995 has been approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

Annex ZA (normative)
Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

Publication	Year	Title	EN	Year
ISO 2231	1989	Rubber-or-plastics-coated fabrics - Standard atmospheres for conditioning and testing	EN ISO 2231	1995
ISO 2286	1986	Rubber-or-plastics-coated fabrics - Determination of roll characteristics	EN 22286	1993

INTERNATIONAL STANDARD

ISO 7854

Second edition
1995-08-15

Rubber- or plastics-coated fabrics — Determination of resistance to damage by flexing

Supports textiles revêtus de caoutchouc ou de plastique — Détermination de la résistance à la flexion

Reference number
ISO 7854:1995(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 7854 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*.

This second edition cancels and replaces the first edition (ISO 7854:1984), which has been technically revised.

Annex A of this International Standard is for information only.

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Introduction

Investigation of dynamic-flex fatigue properties of coated fabrics has for a number of years suffered from poor repeatability (due in part to the unknown but inevitable variability of the material tested) and worse reproducibility. Nevertheless, dynamic-flex performance of coated fabrics has been long and widely used as a measure of the product quality.

The methods traditionally used suffered from the common deficiency of testing only a small test piece. The De Mattia test is unsuitable for materials that exhibit "set", such as thermoplastics, and the Schildknecht method has disadvantages when testing the heavier industrial fabrics and also tends to require very high geometric ratios and consequently time-consuming tests to verify results. In addition, the mounting of Schildknecht test pieces can seriously affect test results and repeatability.

Both the De Mattia and Schildknecht methods are also uni-directional, which in some cases is advantageous, but in many cases is not appropriate, e.g. where bi-directional stresses are exerted during use.

This revised edition of ISO 7854 attempts to standardize the mounting difficulties associated with the Schildknecht apparatus (method B) and introduces a bi-directional flex fatigue test that provides a large test piece, enabling post-flexing investigations, such as hydrostatic-head tests, to be conducted. The apparatus is described in ISO 8096-3:1988, *Rubber- or plastics-coated fabrics for water-resistant clothing — Specification — Part 3: Natural rubber- and synthetic rubber-coated fabrics*. The apparatus outlined there in illustrative form (see the note to F.1 in annex F of ISO 8096-3:1988) has been developed in more detail and is now widely available commercially from a number of sources.

Flex testing can provide a useful indication of the durability of coated fabrics. However, for most applications, flexing conditions induced by these test methods are dissimilar to the conditions met in practice. In particular, the micro-climate induced around the test piece and the thermal stresses induced in the molecular structure of the coating during flexing are unlikely to be representative of practical situations. It is important therefore that these effects be kept to a minimum and their effect be given due consideration when test results are being considered. Consequently, it is important to ensure that the air temperature around the test pieces is kept constant during the test. This can be achieved either by maintaining adequate non-forced, open ventilation around the test pieces or by controlling the air temperature within any closed container in which the test apparatus may be mounted.

Three methods are described. Method A (De Mattia) may be found suitable for flex testing coated fabrics which cannot be constrained into the configuration required by method B or where the amount of material available for testing is too small to permit the other methods to be employed. Method B (Schildknecht) will be found useful for flex testing coated fabrics of relatively lightweight construction or whose practical