INTERNATIONAL STANDARD

ISO 5470-2

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Rubber- or plastics-coated fabrics — Determination of abrasion resistance —

Part 2: **Martindale abrader**

Supports textiles revêtus de caoutchouc ou de plastique — Détermination de la résistance à l'usure —

Partie 2: Appareil d'essai d'abrasion Martindale

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 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 5470-2 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 4, *Products (other than hoses)*.

ISO 5470 consists of the following parts, under the general title *Rubber- or plastics-coated fabrics — Determination of abrasion resistance*:

— *Part 1: Taber abrader*

— *Part 2: Martindale abrader*

Rubber- or plastics-coated fabrics — Determination of abrasion resistance —

Part 2:
Martindale abrader

WARNING — Persons using this part of ISO 5470 should be familiar with normal laboratory practice. This part of ISO 5470 does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any regulatory conditions.

1 Scope

This part of ISO 5470 details two separate methods for determining the resistance of a material to wet and dry abrasion. It is applicable to the coated surface or surfaces of coated fabrics. If the abrasion behaviour of the uncoated surface of a coated fabric is to be determined, use the methods for uncoated textiles described in the various parts of ISO 12947.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

ISO 2286-1:1998, *Rubber- or plastics-coated fabrics — Determination of roll characteristics — Part 1: Methods for determination of length, width and net mass*

ISO 12947-2:1998, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 2: Determination of specimen breakdown*

ISO 12947-3:1998, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 3: Determination of mass loss*

ISO 12947-4:1998, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 4: Assessment of appearance change*

3 Principle

This part of ISO 5470 details two different methods. In method 1, test specimens are clamped in a specimen holder and abraded using pieces of a selected abradant under constant pressure. A variant of this method consists of carrying out the method with a wet abradant. Method 2 reverses the position of the abradant and the specimen. In both cases, the relative movement between the abradant and the specimens forms a complex cyclic pattern (a Lissajous figure) which produces rubbing in all directions. The test is stopped either after a predetermined number of cycles (in which case the damage to each specimen is assessed) or when the specimen has reached a predetermined degree of abrasion (in which case the number of cycles is noted).