
**Rubber- or plastics-coated fabrics —
Determination of tensile strength and
elongation at break**

*Supports textiles revêtus de caoutchouc ou de plastique —
Détermination de la force de rupture et de l'allongement à la rupture*

Sample Document

get full document from standards.iteh.ai



Reference number
ISO 1421:2016(E)

© ISO 2016

Sample Document

get full document from standards.iteh.ai



COPYRIGHT PROTECTED DOCUMENT

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	5
5 Apparatus and reagents	5
6 Atmosphere for conditioning and testing	6
6.1 For conditioning	6
6.2 For testing	6
7 Time-interval between manufacture and testing	6
8 Method 1: Strip test method	6
8.1 Sampling and preparation of test pieces	6
8.2 Procedure	7
8.2.1 Mounting the test piece in place	7
8.2.2 Operation	9
8.2.3 Slippage	9
8.2.4 Jaw breaks and the breaks outside the reference marks	9
8.2.5 Test on wet test pieces	9
8.3 Calculation and expression of results	10
8.4 Test report	10
9 Method 2: Grab test method	10
9.1 Sampling and preparation of test pieces	10
9.2 Procedure	11
9.2.1 Mounting the test piece in place	11
9.2.2 Operation	11
9.2.3 Slippage	11
9.2.4 Jaw breaks	11
9.2.5 Test on wet test pieces	11
9.3 Calculation and expression of results	13
9.4 Test report	13

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 4, *Products (other than hoses)*.

This third edition cancels and replaces the second edition (ISO 1421:1998), which has been technically revised. The changes are as follows.

- In [Clause 3](#), gauge length and reference points have been added and [Figures 1](#), [2](#), and [3](#) have been moved to clarify the definitions.
- The title of [Clause 5](#) has been changed.
- [Clause 6](#) has been subdivided in two subclauses and conditions have been clarified respectively by referring to the particulars specified in ISO 2231:1989.
- A new clause has been added to specify the time-interval between manufacture and testing.
- In [8.1](#), two narrower widths of 10 mm and 30 mm have been added for test piece and the pre-tension forces have been revised accordingly. The procedure for the test pieces with reference mark has been incorporated.
- In [8.2](#), the procedure for handling abnormal test results has been modified.

Rubber- or plastics-coated fabrics — Determination of tensile strength and elongation at break

WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This International Standard does not purport to address all of the safety problems, 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 national regulatory conditions.

1 Scope

This International Standard specifies two methods for the determination of the tensile strength of fabrics coated with rubber or plastics.

- Method 1 — the strip test method, which is a method for the determination of tensile strength and elongation at break.
- Method 2 — the grab test method, which is a method for the determination of tensile strength only.

The methods apply to test pieces in equilibrium with specific standard atmospheres for testing and to wet test pieces. Both methods require the use of a constant rate of extension (CRE) tensile-testing machine.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 2286-2, *Rubber- or plastics-coated fabrics — Determination of roll characteristics — Part 2: Methods for determination of total mass per unit area, mass per unit area of coating and mass per unit area of substrate*

ISO 7500-1, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system.*

3 Terms and definitions

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

3.1

constant rate of extension

CRE

means of conducting a tensile test in which the rate of increase in the length of the test piece is uniform with time

Note 1 to entry: The rate of increase of the force is dependent upon the extension characteristics of the test piece.