BS ISO 34-1:2022

BSI Standards Publication

Rubber, vulcanized or thermoplastic — Determination of tear strength

Part 1: Trouser, angle and crescent test pieces

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National foreword

This British Standard is the UK implementation of ISO 34-1:2022. It supersedes BS ISO 34-1:2015, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/22, Testing and analysis of rubber.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Rubber, vulcanized or thermoplastic — Determination of tear strength —

Part 1: Trouser, angle and crescent test pieces

Caoutchouc vulcanisé ou thermoplastique — Détermination de la résistance au déchirement —

Partie 1: Éprouvettes pantalon, angulaire et croissant

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Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Principle **2**
4.1 General 2
4.2 Method A: Method to determine trouser tear strength 2
4.3 Method B, procedure (a): Method to determine unnicked angle tear strength 2
4.4 Method B, procedure (b): Method to determine nicked angle tear strength 3
4.5 Method C: Method to determine crescent tear strength 3
5 Apparatus **3**
5.1 Dies 3
5.2 Nick cutter 5
5.3 Thickness gauge 6
5.4 Testing machine 6
5.5 Grips 6
6 Calibration **6**
7 Test piece **7**
8 Number of test pieces **7**
9 Temperature of test **7**
10 Procedure **8**
11 Expression of results **8**
12 Precision **8**
13 Test report **8**
Annex A (informative) **Precision results from an interlaboratory test programme** **10**
Annex B (normative) **Calibration schedule** **13**
Bibliography **15**

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Document Sharing Hub
Full document details: BS ISO 34-1:2022

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 of the voluntary nature of standards, 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 2, *Testing and analysis*.

This fifth edition cancels and replaces the fourth edition (ISO 34-1:2015), which has been technically revised.

The main changes are as follows:

— the detailed information regarding the methods in Clause 1 have been moved to Clause 4;

— Figure 4 in 5.5 has been revised;

— expressions in Clauses 7 and 11 have been modified to avoid unexpected misunderstandings and to get precise results.

A list of all parts in the ISO 34 series can be found on the ISO website.

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INTERNATIONAL STANDARD **ISO 34-1:2022**

Rubber, vulcanized or thermoplastic — Determination of tear strength —

Part 1:
Trouser, angle and crescent test pieces

WARNING 1 — Persons using this document should be familiar with normal laboratory practice. This document 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 determine the applicability of any other restrictions.

WARNING 2 — Certain procedures specified in this document can involve the use or generation of substances, or the generation of waste, that could constitute a local environmental hazard. Reference should be made to appropriate documentation on safe handling and disposal after use.

1 Scope

This document specifies three test methods for the determination of the tear strength of vulcanized or thermoplastic rubber, namely the following:

— method A, using a trouser test piece;

— method B, using an angle test piece, with or without a nick of specified depth;

— method C, using a crescent test piece with a nick.

The value of tear strength obtained depends on the shape of the test piece, speed of stretching, and temperature of test. It can also be susceptible to grain effects in rubber.

NOTE A separate method for the determination of the tear strength of small test pieces of rubber (Delft test pieces) is specified in ISO 34-2.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1382, *Rubber — Vocabulary*

ISO 5893, *Rubber and plastics test equipment — Tensile, flexural and compression types (constant rate of traverse) — Specification*

ISO 6133, *Rubber and plastics — Analysis of multi-peak traces obtained in determinations of tear strength and adhesion strength*

ISO 18899:2013, *Rubber — Guide to the calibration of test equipment*

ISO 23529:2016, *Rubber — General procedures for preparing and conditioning test pieces for physical test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1382 and the following apply.

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