BS EN ISO 3303-1:2020

BSI Standards Publication

Rubber- or plastics-coated fabrics — Determination of bursting strength

Part 1: Steel-ball method

bsi.

National foreword

This British Standard is the UK implementation of EN ISO 3303-1:2020. It is identical to ISO 3303-1:2020. It supersedes BS ISO 3303-1:2012, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee TCI/24, Physical testing of textiles.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English Version

Rubber- or plastics-coated fabrics - Determination of bursting strength - Part 1: Steel-ball method (ISO 3303-1:2020)

Supports textiles revêtus de caoutchouc ou de plastique - Détermination de la résistance à l'éclatement - Partie 1: Méthode utilisant une bille d'acier(ISO 3303-1:2020)

Kautschuk- oder kunststoffbeschichtete Textilien - Bestimmung des Berstwiderstands - Teil 1: Stahlkugelverfahren (ISO 3303-1:2020)

This European Standard was approved by CEN on 19 July 2020.

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This European Standard exists 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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN ISO 3303-1:2020) has been prepared by Technical Committee ISO/TC 45 "Rubber and rubber products" in collaboration with 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of an identical text or by endorsement, at the latest by March 2021, and conflicting national standards shall be withdrawn at the latest by March 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 3303-1:2020 has been approved by CEN as EN ISO 3303-1:2020 without any modification.

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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.

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).

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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 4, *Products (other than hoses),* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 248, *Textiles and textile products,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 3303-1:2012), which has been technically revised.

The main changes compared to the previous edition are as follows:

— in Clause 2, ISO 7500-1:2018 has been added for the calibration of force measurement system;

— the title of Clause 5 has been changed to “Apparatus and reagents”;

— reagents have been added to Clause 5;

— in 5.1, the testing machine has been changed to that of power driven, equipped with an electronic force measurement system and an electronic crosshead displacement monitor.

— in 5.2 and bibliography, EN 12332-1 has been deleted as it was replaced with this document;

— in Figure 1, the round direction of clamp has been modified;

— in 5.6, blotting paper has been added;

— in 7.3, the preparation of wet test pieces has been specified.

— in 9.1, the recommendations on conditioning for fabrics coated on one side or on both sides have been added separately;

— in 10.6, procedure for wet test pieces has been specified.

A list of all parts in the ISO 3303 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The bursting strength of coated fabrics is often used as a measure of the multidirectional modulus of the material, as opposed to tensile properties which only provide guidance to the coated-fabric strength in one plane. In addition, bursting strength is more appropriate for testing materials prone to necking, such as coated fabrics with knitted substrates.

The method described in this document, which employs a steel ball, is useful as it represents an impact failure typical of one which would be experienced in service.

INTERNATIONAL STANDARD **ISO 3303-1:2020**

Rubber- or plastics-coated fabrics — Determination of bursting strength —

Part 1: Steel-ball method

WARNING — 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 ensure compliance with any national regulatory conditions.

1 Scope

This document specifies a method for the determination of the bursting strength of rubber or plastics coated fabrics, using a mechanically operated steel ball.

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

ISO 7500-1:2018, *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

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Principle

A test piece is securely clamped between rigid coaxial apertures. A polished steel ball traversing at a fixed speed is pressed against the test piece until failure occurs. The force required to cause failure and the displacement of the polished steel ball at failure are recorded.

5 Apparatus and reagents

5.1 Testing machine, power driven, equipped with an electronic force measurement system and an electronic crosshead displacement monitor. The drive system shall be capable of maintaining constant the speed of the moving head to ±10 % of the set value. The force measurement system shall be capable of measuring the relevant forces occurring during the test within class 2 of ISO 7500-1:2018. The crosshead displacement monitor shall be capable of measuring the relevant displacements under load to within ±1,0 mm.