
**Rubber — General procedures for
preparing and conditioning test pieces
for physical test methods**

*Caoutchouc — Procédures générales pour la préparation et le
conditionnement des éprouvettes pour les méthodes d'essais physiques*

Sample Document

get full document from standards.iteh.ai



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	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Identification and record keeping	1
5 Standard laboratory conditions	2
5.1 Standard laboratory temperature.....	2
5.2 Standard laboratory humidity.....	2
5.3 Other conditions.....	2
6 Storage of samples and test pieces	2
7 Preparation of test pieces	3
7.1 Test piece thickness.....	3
7.2 Thickness adjustment.....	3
7.2.1 General.....	3
7.2.2 Techniques.....	3
7.2.3 Equipment for test piece preparation.....	4
7.3 Test piece cutters.....	5
7.3.1 General.....	5
7.3.2 Fixed-blade cutters.....	5
7.3.3 Replaceable-blade cutters.....	6
7.3.4 Rotary cutters.....	6
7.4 Maintenance of cutters.....	6
7.5 Preparation of test pieces by moulding.....	6
7.5.1 Test sheets.....	6
7.5.2 Test pieces.....	6
7.5.3 Thermoplastic materials.....	6
7.6 Preparation of unvulcanized test pieces.....	7
8 Conditioning	7
8.1 General.....	7
8.2 Conditioning times for subnormal or elevated temperatures.....	7
9 Measurement of the dimensions of test pieces	7
9.1 Method A — For dimensions less than 30 mm.....	7
9.2 Method B — For dimensions of 30 mm and up to and including 100 mm.....	8
9.3 Method C — For dimensions over 100 mm.....	8
9.4 Method D — Non-contact method.....	8
10 Conditions of test	9
10.1 Duration of test.....	9
10.2 Temperature and humidity.....	9
10.2.1 Standard laboratory temperature and humidity.....	9
10.2.2 Other test temperatures.....	9
11 Test chambers	10
11.1 General requirements for temperature-controlled chambers.....	10
11.2 Chambers operating at elevated temperatures.....	11
11.2.1 Chambers with gaseous heat-transfer media.....	11
11.2.2 Chambers with liquid heat-transfer media.....	11
11.2.3 Fluidized beds.....	11
11.3 Chambers operating at subnormal temperatures.....	11
11.3.1 Mechanically refrigerated units.....	11
11.3.2 Solid carbon dioxide units (direct-cooling type).....	11
11.3.3 Solid carbon dioxide units (indirect-cooling type).....	11

11.3.4	Packaged refrigeration units.....	11
11.3.5	Liquid nitrogen.....	11
12	Test report.....	12
Annex A	(normative) Conditioning times for rubber test pieces.....	13
Bibliography	16

Sample Document

get full document from standards.iteh.ai

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 2, *Testing and analysis*.

This third edition cancels and replaces the second edition (ISO 23529:2010), which has been technically revised as follows.

- [Clause 2](#) and [Clause 3](#) have been added.
- Rubber solvent has been added as a textile-removing liquid ([7.2.2.1](#)).
- Description on preparation of unvulcanized test pieces has been added ([7.6](#)).
- [7.3.1](#) and [7.3.2](#) have been modified.
- Information on suitable callipers has been added (Note to [9.2](#)).
- The format of [Table A.1](#), [Table A.2](#) and [Table A.3](#) has been improved.

Sample Document

get full document from standards.iteh.ai

Rubber — General procedures for preparing and conditioning test pieces for physical test methods

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 ensure compliance with any national regulatory conditions.

WARNING 2 — Certain procedures specified in this document might 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 general procedures for the preparation, measurement, marking, storage, and conditioning of rubber test pieces for use in physical tests specified in other International Standards, and the preferred conditions to be used during the tests. Special conditions, applicable to a particular test or material or simulating a particular climatic environment, are not included, nor are special requirements for testing whole products.

This document also specifies the requirements for the time interval to be observed between forming and testing of rubber test pieces and products. Such requirements are necessary to obtain reproducible test results and to minimize disagreements between customer and supplier.

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 1795, *Rubber, raw natural and raw synthetic — Sampling and further preparative procedures*

3 Terms and definitions

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

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Identification and record keeping

Records shall be kept of the identity of each test piece so that it is identifiable with the sample supplied and such that all the relevant details of preparation, storage, conditioning and measurement are traceable to each individual test piece.

Each sample or test piece shall be individually identifiable by marking or segregation at each stage of its preparation and testing. Where marking is used as the method of identification, the markings shall be sufficiently durable to ensure that the test piece or sample remains identifiable until discarded. Where grain effects can be significant, the direction of the grain shall be identified on each sample or test piece.