
Rubber, raw natural — Determination of plasticity retention index (PRI)

*Caoutchouc naturel brut — Détermination de l'indice de rétention de
plasticité (PRI)*

Sample Document

get full document from standards.iteh.ai



Reference number
ISO 2930:2017(E)

© ISO 2017

Sample Document

get full document from standards.iteh.ai



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, 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	2
5 Apparatus	2
6 Procedure	3
6.1 Preparation of test pieces.....	3
6.2 Ageing.....	3
6.3 Determination of plasticity.....	3
7 Expression of results	4
8 Precision	4
9 Test report	4
Annex A (informative) Air change in oven for PRI determination	5
Annex B (informative) Precision statement for plasticity retention index	7
Bibliography	9

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 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 3, *Raw materials (including latex) for use in the rubber industry*.

This fifth edition cancels and replaces the fourth edition (ISO 2930:2009), which has been technically revised.

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

- the normative references have been updated;
- a duration of 30 min has been added in [Clause 4](#);
- the tolerance value for oven temperature has been changed to $\pm 0,5$ °C in [5.5](#);
- the description for lightweight aluminium tray and dishes in [5.6](#) has been modified;
- a new [Annex A](#) on the air change in oven for PRI determination has been added;
- [Table B.1](#) has been updated, following the interlaboratory test programme conducted in 2014.

Rubber, raw natural — Determination of plasticity retention index (PRI)

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 determining the plasticity retention index (PRI) of raw natural rubber.

The PRI is a measure of the resistance of raw natural rubber to thermal oxidation. A high resistance to thermal oxidation is shown as a high value of the index. PRI is not an absolute value and cannot give an absolute classification of plasticity number of different natural rubber after oxidation.

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*

ISO 2007, *Rubber, unvulcanized — Determination of plasticity — Rapid-plastimeter method*

ISO 2393, *Rubber test mixes — Preparation, mixing and vulcanization — Equipment and procedures*

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 following terms and definitions 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>

3.1

plasticity number

measure of plasticity, based upon the height of a test piece after being subjected to deformation under specified conditions of compressive force, time and temperature

3.2

plasticity retention index

ratio of the *plasticity number* (3.1) measured after air-oven ageing for 30 min at 140 °C to the plasticity number before oven ageing