



**International
Standard**

ISO 2230

**Rubber products — Guidelines for
storage**

*Produits à base d'élastomères — Lignes directrices pour le
stockage*

**Third edition
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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 document 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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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)*.

This third edition cancels and replaces the second edition (ISO 2230:2002), which has been technically revised.

The main changes are as follows:

- addition of new polymers to [Tables 1, 2](#) and [3](#) in [Clause 4](#);
- revision of the classification of some polymers ([Clause 4](#));
- revision of the temperature range for storage conditions ([6.2](#)).

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

Many rubber products and components are stored for long periods before being put into service, and thus it is important they are stored in conditions that minimize the unwanted changes in properties. Such changes can result from degradation, in which case they can potentially include excessive hardening, softening, cracking, crazing and other surface effects. Other changes can be caused by deformation, contamination or mechanical damage.

The requirements of different users and the multiplicity of rubber types and products are factors of major consideration in this document. It is recognized that some rubbers are more susceptible than others to deterioration by such factors as heat, light, ozone, oxygen and humidity. Exposure to these factors should therefore be minimized in order to extend storage life. To do so, there must be a system of storage control, proper packaging and periodic inspection.

A system of recording, for the proper maintenance of storage and inspection data, is included in order to assist in verifying that the provisions of this document are maintained in association with common elements associated with product specifications and their verification through conducting of statistically significant methods of test. Refer to ISO 9000, ISO 9001 and ISO 9004 to supplement the information contained in this document.

In this document, only the causes of generation of deleterious influences such as ozone and radiation are mentioned as being prohibited. Methods for measuring concentrations or intensities of these are not within the scope of this standard.

Recommendations are included in [Annex A](#) for the inspection and testing of specific products.

Rubber products — Guidelines for storage

1 Scope

This document gives guidelines for inspection, recording procedures, packaging and storage of products, assemblies and components made from vulcanized or thermoplastic rubber prior to being put into circulation.

It is applicable to both solid and cellular rubber products prepared from dry raw rubber, latex or other sources. It is not intended for use with raw rubber in bale, liquid (solution or emulsion) or particulate form, storage guidance for which is given in ISO 7664.

NOTE The recommendations for packaging form an integral part of the controlled storage procedure, as well as providing means of identifying the material and product.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

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

3.1

initial storage period

maximum period, starting from the time of manufacture, for which a rubber product, appropriately packaged, may be stored under specified conditions before a sample must be inspected or re-tested

3.2

extension storage period

period for which a rubber product, appropriately packaged, may be stored after the initial storage period, before further inspection and re-testing is necessary

3.3

storage life

maximum period of time that a rubber product, appropriately packaged, may be stored, after which time it is regarded as unserviceable for the purposes for which it was originally manufactured

Note 1 to entry: The storage life of a rubber product is influenced by its shape and size as well as its composition, with thick products usually undergoing slower change due to degradation than thinner ones.

3.4

assembly

any product or component containing more than one element, one or more of which is made of rubber

3.5

ageing

irreversible change of material properties during exposure to an environment, for a period of time