
Rubber, vulcanized — Guidelines for material specification

Caoutchouc vulcanisé — Lignes directrices pour la spécification des matériaux



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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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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)*.

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 specifications in this document give good basic materials for general use. For specific product applications, materials with modified specifications can be needed. There can also be a need to specify additional tests such as for dynamic properties.

Rubber, vulcanized — Guidelines for material specification

1 Scope

This document establishes guidelines for the specification of vulcanized rubber based on the properties of individual rubber types. This document helps users of rubber products, who are not rubber experts, to create a specification for the rubber materials they wish to use.

It also describes a designation system to enable a line call-cut code to be devised for each specification.

Since the properties of rubber depend on the type of rubber, such as composition, some rubbers are classified into several types and organized by hardness.

Representative specifications for the following rubber types are given in [Annexes B](#) to [M](#): natural rubber (NR), styrene butadiene rubber (SBR), nitrile rubber (NBR), hydrogenated nitrile rubber (HNBR), nitrile rubber mixed with PVC (NBR/PVC), chloroprene rubber (CR), ethylene acrylic rubber (AEM), fluorocarbon rubber (FKM), silicone rubber (VMQ), epichlorohydrin rubber (ECO) and ethylene propylene rubber (EPM and EPDM).

In cases of mixed rubber polymers, the main polymer in the rubber material gives the name of the rubber type.

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 1629, *Rubber and latices — Nomenclature*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1629 apply.

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 Designing a material specification

For each rubber polymer described in [Annex A](#) there are two or more alternative specifications given in [Annexes B](#) to [M](#).

When using this document, it is recommended to start by selecting rubber polymer according to ISO/TR 7620, and then select hardness.

In several cases, there are also supplementary properties which can be added to the material specification given in the annexes for the material specifications.

The designation of the selected material is described in [Clause 5](#).