INTERNATIONAL STANDARD

**ISO 18064**

Third edition
2022-04

# Thermoplastic elastomers — Nomenclature and abbreviated terms

*Élastomères thermoplastiques — Nomenclature et termes abrégés*

Reference number
ISO 18064:2022(E)

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland



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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,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 18064:2014), which has been technically revised.

The main changes are as follows:

— inclusion of TPO co-polymers;

— differentiation between single polymers and compounds;

— unification of expressions.

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.


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# Introduction

Thermoplastic elastomers combine many of the attributes and features of both vulcanized thermoset rubber and thermoplastic materials. It is, therefore, important that any system of classification and nomenclature for this rapidly expanding polymer sector be acceptable to both the rubber and plastics industries. Neither of the existing International Standards for the nomenclature and abbreviated terms for rubber (ISO 1629) and for plastics (ISO 1043-1) is suitable for this purpose. The system in this document has been devised to avoid any conflict or ambiguity, permit the use of existing terms in the construction of abbreviated terms for thermoplastic elastomers, and allow for future developments or expansion.

This document uses established abbreviated terms. Its aim is both to prevent the occurrence of more than one abbreviated term for a given thermoplastic elastomer term, and to prevent the interpretation of more than one meaning for a given abbreviated term. For this reason, this document makes appropriate use of the terms and symbols listed in ISO 1043-1 and ISO 1629.

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# Thermoplastic elastomers — Nomenclature and abbreviated terms

## 1 Scope

This document establishes a nomenclature system for thermoplastic elastomers based on the chemical composition of the polymer or polymers involved. It specifies symbols and abbreviated terms used to identify thermoplastic elastomers in industry, commerce, and government. It is not intended to conflict with, but to supplement, existing trade names and trademarks.

NOTE 1 The name of the thermoplastic elastomer is intended to be used in technical papers and presentations followed by the abbreviated term used to designate the elastomer in this document.

NOTE 2 Annex A gives thermoplastic-elastomer abbreviated terms that have been used in the past in materials standards, technical bulletins, textbooks, patents, and trade literature.

## 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 1043-1, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics*

ISO 1629, *Rubber and latices — Nomenclature*

## 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**
**thermoplastic elastomer**
**TPE**
polymer or blend of polymers that has properties at its service temperature similar to those of vulcanized rubber but can be processed and reprocessed at elevated temperature like a thermoplastic

Note 1 to entry: TPE are elastomers as specified in ISO 1382 and ISO 472. An elastomer shows recovery after elongation.

## 4 Nomenclature system

**4.1** The prefix TP is used to indicate that the abbreviated term is for a thermoplastic elastomer and shall be followed by a letter representing each category of thermoplastic elastomer, as detailed in Clause 5.

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