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# International Standard



# 1872/1

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## **Plastics — Polyethylene (PE) and ethylene copolymer thermoplastics — Part 1: Designation**

*Plastiques — Thermoplastiques à base de polyéthylène (PE) et de copolymères d'éthylène — Partie 1: Désignation*

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**Descriptors :** plastics, thermoplastic resins, copolymers, polyethylene, designation.

## 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 1872/1 was prepared by Technical Committee ISO/TC 61, *Plastics*.

It cancels and replaces International Standard ISO 1872-1972, of which it constitutes a technical revision.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

# Plastics — Polyethylene (PE) and ethylene copolymer thermoplastics — Part 1: Designation

## 1 Scope and field of application

**1.1** This part of ISO 1872 establishes a system of designation for polyethylene (PE) thermoplastic materials which may be used as the basis for specifications.

**1.2** The types of polyethylene plastics are differentiated from each other by a classification system based on appropriate levels of the designatory properties:

- a) conventional density,
- b) melt flow rate

and information about intended application, method of processing, important properties, additives, colour, fillers and reinforcing materials.

**1.3** This designation system is applicable to all ethylene homopolymers and to copolymers of ethylene having a maximum content of other 1-olefin monomers of less than 50 % (*m/m*) and a content of non-olefinic monomers with functional groups up to a maximum of 3 % (*m/m*). It applies to materials ready for normal use in the form of powder, granules or pellets, and to materials unmodified and modified by colorants, additives, fillers, etc.

This part of ISO 1872 does not apply to masterbatches or EPM rubber.

**1.4** It is not intended to imply that materials having the same designation give necessarily the same performance. This part of ISO 1872 does not provide engineering data, performance data or data on processing conditions which may be required to specify a material for a particular application or method of processing.

If such additional properties are required, they shall be determined in accordance with the test methods specified in ISO 1872/2, if suitable.

**1.5** In order to specify a thermoplastic material for a particular application or reproducible processing, additional requirements may be coded in Data Block 5 (see clause 3).

## 2 References

ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications*.

ISO 1043, *Plastics — Symbols and codes*

— *Part 1: Symbols for basic polymers and their special characteristics.*<sup>1)</sup>

— *Part 2: Codes for designations of polymers by a data block system.*<sup>1)</sup>

ISO 1133, *Plastics — Determination of the melt flow rate of thermoplastics*.

ISO 1183, *Plastics — Methods for determining the density and relative density (specific gravity) of plastics excluding cellular plastics.*<sup>2)</sup>

ISO 1872/2, *Plastics — Polyethylene and ethylene copolymer thermoplastics — Part 2: Preparation of test specimens and determination of properties.*<sup>3)</sup>

1) At present at the stage of draft. (Partial revision of ISO 1043-1978.)

2) At present at the stage of draft. (Revision of ISO 1183-1970.)

3) At present at the stage of draft.