
INTERNATIONAL STANDARD



1872

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Polyethylene thermoplastic materials — Designation

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FOREWORD

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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.

International Standard ISO 1872 was drawn up by Technical Committee ISO/TC 61, *Plastics*.

It was approved in February 1970 by the Member Bodies of the following countries:

Australia	Greece	Romania
Austria	Hungary	South Africa, Rep. of
Belgium	Israel	Spain
Canada	Italy	Switzerland
Chile	Japan	Turkey
Czechoslovakia	Netherlands	United Kingdom
Egypt, Arab Rep. of	New Zealand	U.S.A.
France	Poland	U.S.S.R.
Germany	Portugal	

The Member Body of the following country expressed disapproval of the document on technical grounds:

Sweden

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Polyethylene thermoplastic materials — Designation

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the method to be used for the identification of polyethylene materials in such a manner that manufacturer and purchaser can agree on the substantial similarity of different commercial lots or shipments. Materials are characterized by a classification system based on basic polymer parameters and recommended end uses.

Although major end use(s) are indicated, this is not intended to be restrictive, nor does it imply a guarantee of suitability under particular processing and use conditions.

This International Standard does not provide engineering data, nor for special modifications which may be necessary in certain applications; such modifications and the relevant test methods shall be agreed between purchaser and supplier.

2 REFERENCES

ISO/R 292, *Plastics — Determination of the melt flow index of polyethylene and polyethylene compounds.*

ISO/R 293, *Plastics — Compression moulding test specimens of thermoplastic materials.*

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

3 CLASSIFICATION SYSTEM

This International Standard covers only ethylene homo-polymers and copolymers of ethylene containing not more than 5 % (molar) of α -olefinic co-monomer without any other functional group, and mixture of such polymers. Polyethylene materials are classified in the following basic ways:

- nominal density
- melt index
- major end use
- modifications

3.1 Nominal density at 23 °C (See 6.1)

This is identified in terms of five ranges as follows:

- 1) up to 0.920 g/ml
- 2) 0.921 to 0.930 g/ml
- 3) 0.931 to 0.944 g/ml
- 4) 0.945 to 0.954 g/ml
- 5) equal to or greater than 0.955 g/ml

3.2 Melt flow index (See 6.2)

This is identified in terms of five ranges, as follows:

- 1) less than 0.2 g/10 min
- 2) 0.2 to 1.0 g/10 min
- 3) 1.0 to 10.0 g/10 min
- 4) 10.0 to 25.0 g/10 min
- 5) greater than 25.0 g/10 min

3.3 Major end use

At present this is identified in terms of one or more of the following applications:

- M = moulding
- E = general extrusion
- F = film
- K = cable
- B = bottle
- C = coating
- P = pipe
- S = powder processing
- L = monofilament
- Y = tapes

3.4 Modifications

This refers to additives, fillers, etc. For the present, these modifications are defined as follows: