



SLOVENSKI STANDARD
SIST EN ISO 1873-1:1999

01-maj-1999

Polimerni materiali - Materiali za oblikovanje in ekstrudiranje iz polipropilena - 1. del: Sistem označevanja in osnove za specifikacijo (ISO 1873-1:1995)

Plastics - Polypropylene (PP) moulding and extrusion materials - Part 1: Designation system and basis for specifications (ISO 1873-1:1995)

Kunststoffe - Polypropylen (PP) Formmassen - Teil 1: Bezeichnungssystem und Basis für Spezifikationen (ISO 1873-1:1995)

Plastiques - Polypropylène (PP) pour moulage et extrusion - Partie 1: Systeme de désignation et base pour les spécifications (ISO 1873-1:1995)

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Ta slovenski standard je istoveten z: EN ISO 1873-1:1995

ICS:

83.080.20 Plastomeri Thermoplastic materials

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EUROPEAN STANDARD

EN ISO 1873-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 1995

ICS

Descriptors: See ISO document

English version

**Plastics - Polypropylene (PP) moulding and
extrusion materials - Part 1: Designation system
and basis for specifications (ISO 1873-1:1995)**

Plastiques - Polypropylène (PP) pour moulage et
extrusion - Partie 1: Système de désignation et
base pour les spécifications (ISO 1873-1:1995)

Kunststoffe - Polypropylen (PP) Formmassen -
Teil 1: Bezeichnungssystem und Basis für
Spezifikationen (ISO 1873-1:1995)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

The text of the International Standard ISO 1873-1:1995 has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with CEN/TC 249 "Plastics".

This European Standard shall be given the status of a National Standard, either by publication of an identical text or by endorsement, at the latest by March 1996, and conflicting national standards shall be withdrawn at the latest by March 1996.

According to CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 1873-1:1995 has been approved by CEN as a European Standard without any modification.

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INTERNATIONAL
STANDARD

ISO
1873-1

Fourth edition
1995-09-01

**Plastics — Polypropylene (PP) moulding
and extrusion materials —**

Part 1:

Designation system and basis for
specifications

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Plastiques — Polypropylène (PP) pour moulage et extrusion —

Partie 1: Système de désignation et base de spécification



Reference number
ISO 1873-1:1995(E)

ISO 1873-1:1995(E)**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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 1873-1 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

This fourth edition cancels and replaces the third edition (ISO 1873-1:1991) and includes the following changes:

The designatory property "isotactic index" has been replaced by the designatory properties "tensile modulus of elasticity" and "impact strength".

ISO 1873 consists of the following parts, under the general title *Plastics — Polypropylene (PP) moulding and extrusion materials*:

- *Part 1: Designation system and basis for specifications*
- *Part 2: Preparation of test specimens and determination of properties*

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Plastics — Polypropylene (PP) moulding and extrusion materials —

Part 1:

Designation system and basis for specifications

1 Scope

1.1 This part of ISO 1873 establishes a system of designation for polypropylene (PP) thermoplastic material, which may be used as the basis for specifications.

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

- a) tensile modulus of elasticity
- b) impact strength
- c) melt mass-flow rate (MFR)

and on information about basic polymer parameters, intended application and/or method of processing, important properties, additives, colorants, fillers and reinforcing materials.

1.3 This part of ISO 1873 is applicable to all propylene homopolymers and to copolymers of propylene with a content of other 1-olefins of less than 50 % (*m/m*), as well as blends of polymers containing at least 50 % (*m/m*) of aforementioned polymers.

It applies to materials ready for normal use in the form of powder, granules or pellets and to materials unmodified or modified by colorants, additives, fillers, etc.

This part of ISO 1873 does not apply to propylene-based rubber.

1.4 It is not intended to imply that materials having the same designation give necessarily the same performance. This part of ISO 1873 does not provide engineering data, performance data or data on processing conditions which may be required to specify a material for a particular application and/or method of processing.

If such additional properties are required, they shall be determined in accordance with the test methods specified in part 2 of this International Standard, if suitable.

1.5 In order to specify a thermoplastic material for a particular application or to ensure reproducible processing, additional requirements may be given in data block 5 (see clause 3, introductory paragraph).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 1873. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 1873 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1043-1:1987, *Plastics — Symbols — Part 1: Basic polymers and their special characteristics*.

ISO 1043-2:1988, *Plastics — Symbols — Part 2: Fillers and reinforcing materials*.

ISO 1133:1991, *Plastics — Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics*.

ISO 1873-2:—¹⁾, *Plastics — Polypropylene (PP) moulding and extrusion materials — Part 2: Preparation of test specimens and determination of properties*. (standards.iteh.ai)

3 Designation and specification system

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The designation and specification system for thermoplastics is based on the following standardized pattern:

Designation						
Description block (optional)	Identity block					
	International Standard Number block	Individual-item block				
		Data block 1	Data block 2	Data block 3	Data block 4	Data block 5

¹⁾ To be published. (Revision of ISO 1873-2:1989)

The designation consists of an optional description block, reading “Thermoplastics”, and an identity block comprising the International Standard number and an individual-item block. For unambiguous coding, the individual-item block is subdivided into 5 data blocks comprising the following information:

- Data block 1: Identification of the plastic by its symbol PP in accordance with ISO 1043-1 and information about the polymerization process or composition of the polymer (see 3.1).
- Data block 2: Position 1: Intended application or method of processing (see 3.2).
Positions 2 to 8: Important properties, additives and supplementary information (see 3.2).
- Data block 3: Designatory properties (see 3.3).
- Data block 4: Fillers or reinforcing materials and their nominal content (see 3.4).
- Data block 5: For the purpose of specifications, a fifth data block may be added containing additional information.

The first character of the individual-item block shall be a hyphen. The data blocks shall be separated from each other by commas.

If a data block is not used, this shall be indicated by doubling the separation sign, i.e. by two commas (,,).

3.1 Data block 1

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In this data block, after the hyphen, polypropylene plastics are identified by the symbol “PP”, in accordance with ISO 1043-1, followed by a hyphen and a single code-letter giving additional information on the polymer as specified in table 1.

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Table 1 — Code-letters used for additional information in data block 1

Code-letter	Definition
H	Propylene homopolymer
B 1)	Thermoplastic propylene impact polymer consisting of two or more phases of either a propylene plastic H or a propylene plastic R and rubber phases composed of propylene and another olefinic monomer (or monomers) having no functional group other than the olefinic group, added <i>in situ</i> or physically blended with the propylene plastic matrix
R	Thermoplastic propylene random copolymer containing another olefinic monomer (or monomers) having no functional group other than the olefinic group, copolymerized with propylene

1) This group of polymers were termed “block” copolymers in the past.

3.2 Data block 2

In this data block, information about intended application and/or method of processing is given in position 1 and information about important properties, additives and colour in positions 2 to 8. The code-letters used are specified in table 2.

If information is presented in positions 2 to 8 and no specific information is given in position 1, the letter X shall be inserted in position 1.