SLOVENSKI STANDARD
SIST ISO 1622-1:1996

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Polimerni materiali - Polistirenski (PS) materiali za oblikovanje in ekstrudiranje - 1. del: Sistem označevanja in osnove specifikacij

Plastics -- Polystyrene (PS) moulding and extrusion materials -- Part 1: Designation system and basis for specifications

Plastiques -- Polystyrène (PS) pour moulage et extrusion -- Partie 1: Système de désignation et base de spécification

Ta slovenski standard je istoveten z: **ISO 1622-1:1994**

ICS:

83.080.20 Plastomeri Thermoplastic materials

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INTERNATIONAL STANDARD

ISO 1622-1

Second edition
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Plastics — Polystyrene (PS) moulding and extrusion materials —

Part 1: Designation system and basis for specifications

Plastiques — Polystyrène (PS) pour moulage et extrusion — Partie 1: Système de désignation et base de spécification

Reference number
ISO 1622-1:1994(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 1622-1 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

This second edition cancels and replaces the first edition (ISO 1622-1:1985), the text of which has been brought into accordance with the revised frame text for designation standards.

ISO 1622 consists of the following parts, under the general title *Plastics — Polystyrene (PS) 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 — Polystyrene (PS) moulding and extrusion materials —

Part 1:
Designation system and basis for specifications

1 Scope

1.1 This part of ISO 1622 establishes a system of designation for polystyrene thermoplastic material, which may be used as the basis for specifications.

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

a) Vicat softening temperature

b) melt mass-flow rate

and on information about the intended application and/or method of processing, important properties, additives and colorants.

1.3 This part of ISO 1622 is applicable to all amorphous polystyrene homopolymers.

It applies to materials ready for normal use, unmodified or modified by colorants, additives, fillers, etc.

This part of ISO 1622 does not apply to expanded polystyrene, styrene copolymers, homopolymers of substituted styrene and those modified with other polymers such as elastomers.

1.4 It is not intended to imply that materials having the same designation give necessarily the same performance. This part of ISO 1622 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 1622. 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 1622 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 306:1994, *Plastics — Thermoplastic materials — Determination of Vicat softening temperature (VST).*

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

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

ISO 1622-2:—[1], *Plastics — Polystyrene (PS) moulding and extrusion materials — Part 2: Preparation of test specimens and determination of properties.*

3 Designation system

The designation 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**

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 designation, the individual-item block is subdivided into 5 data blocks comprising the following information:

Data block 1: Identification of the plastic by its symbol PS in accordance with ISO 1043-1 (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 (not included in this standard).

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 (,,).

1) To be published. (Revision of ISO 1622-2:1980)

3.1 Data block 1

In this data block, after the hyphen, polystyrene plastics are indentified by the symbol "PS", in accordance with ISO 1043-1.

3.2 Data block 2

In this data block, information about the 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 1.

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.

Table 1 — Code-letters used in data block 2

Code-letter	Position 1	Code-letter	Positions 2 to 8
		A	Processing stabilized
		C	Coloured
E	Extrusion		
F	Extrusion of films	**F**	Special burning characteristics
G	General use		
		L	Light or weather stabilized
M	Moulding		
		N	Natural (no colour added)
		R	Mould release agent
		S	Lubricated
X	No indication		
		Z	Antistatic

3.3 Data block 3

In this data block, the range of the Vicat softening temperature is represented by a 3-figure code-number (see 3.3.1) and the range of the melt flow rate by a 2-figure code-number (see 3.3.2). The code-numbers are separated from each other by hyphens.

If a property value falls on or near a range limit, the manufacturer shall state which range will designate the material. If subsequent individual test values lie on, or on either side of, the limit because of manufacturing tolerances, the designation is not affected.

NOTE 1 Not all the combinations of the values of the designatory properties have to be provided for currently available polymers.

3.3.1 Vicat softening temperature

The Vicat softening temperature shall be determined in accordance with ISO 306.

The possible values of Vicat softening temperature are divided into 4 ranges, each represented by a 3-figure code-number as specified in table 2.

Table 2 — Ranges of Vicat softening temperature in data block 3

Code-number	Range of Vicat softening temperature (°C)
075	⩽ 80
085	> 80 but ⩽ 90
095	> 90 but ⩽ 100
105	> 100

3.3.2 Melt flow rate

The melt mass-flow rate shall be determined in accordance with ISO 1133 at a temperature of 200 °C with a load of 5 kg.

The possible values of melt mass-flow rate are divided into 4 ranges, each represented by a 2-figure code-number as specified in table 3.

Table 3 — Ranges of melt mass-flow rate in data block 3

Code-number	Range of melt mass-flow rate (MFR) (g/10 min)
03	⩽ 4
06	> 4 but ⩽ 8
12	> 8 but ⩽ 16
20	> 16

NOTE 2 Melt mass-flow rate (MFR) will be replaced by melt volume-flow rate (MVR) at the next five-year revision of this part of ISO 1622.

3.4 Data block 5

Indication of additional requirements in this optional data block is a way of tranforming the designation of a material into a specification for a particular application. This may be done for example by reference to a suitable national standard or to a standard-like, generally established specification.