
**Plastics — Sulfone polymer moulding
and extrusion materials —**

**Part 1:
Designation system and basis for
specifications**

*Plastiques — Matériaux pour moulage et extrusion à base de
polymères sulfone —*

Partie 1: Système de désignation et base de spécifications



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 25137-1 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

ISO 25137 consists of the following parts, under the general title *Plastics — Sulfone polymer moulding and extrusion materials*:

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

Plastics — Sulfone polymer moulding and extrusion materials —

Part 1: Designation system and basis for specifications

1 Scope

1.1 This part of ISO 25137 establishes a system of designation for sulfone polymer moulding and extrusion materials, including polysulfone (PSU), polyethersulfone (PESU) and polyphenylsulfone (PPSU), which may be used as the basis for specifications.

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

- a) temperature of deflection under load,
- b) melt mass-flow rate,
- c) Charpy notched impact strength,
- d) tensile modulus and
- e) yield stress,

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

1.3 This part of ISO 25137 is applicable to all sulfone polymers that contain ether oxygen, which is a necessary component of the polymers as in the diphenyl sulfone moiety.

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

1.4 It is not intended to imply that materials having the same designation necessarily give the same performance. This part of ISO 25137 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 3.1).

2 Normative references

The following referenced documents are indispensable for the application 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 25137-2, *Plastics — Sulfone polymer moulding and extrusion materials — Part 2: Preparation of test specimens and determination of properties*

3 Designation system

3.1 General

The designation system for thermoplastics is based on the following standard 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 five data blocks comprising the following information:

- Data block 1: Identification of the plastic by its abbreviated term PSU, PESU or PPSU, in accordance with ISO 1043-1, thus giving information about the composition of the polymer (see 1.3 and 3.2).
- Data block 2: Position 1: Intended application and/or method of processing (see 3.3).
Positions 2 to 8: Important properties, additives and supplementary information (see 3.3).
- Data block 3: Designatory properties (see 3.4).
- Data block 4: Fillers or reinforcing materials and their nominal content (see 3.5).
- Data block 5: For the purpose of specifications, a fifth data block may be added containing additional information (see 3.6).

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

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

3.2 Data block 1

In this data block, after the hyphen, the polymer is identified by its abbreviated term PSU, PESU or PPSU, in accordance with ISO 1043-1, giving information on the composition as indicated in Table 1.