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

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

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

Partie 1: Système de désignation et base de spécifications

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Published in Switzerland

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 24025-1 cancels and replaces ISO 25137-1:2009, which has been technically revised.

The main changes compared to the previous edition are as follows:

- in [Clause 2](#), reference to ISO 25137-2 has been changed to ISO 24025-2;
- [Clause 3](#) has been added;
- in [Clause 4](#), the positions of data block have been changed;
- in [Clause 5](#), the positions of data block have been changed.

A list of all parts in the ISO 24025 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Plastics — Sulfone polymer moulding and extrusion materials —

Part 1: Designation system and basis for specifications

1 Scope

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

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.

This document 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.

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

If such additional properties are required, they are determined in accordance with the test methods specified in ISO 24025-1, if suitable.

In order to specify a thermoplastic material for a particular application or to ensure reproducible processing, the requirements are given in data block 5 (see [4.1](#)).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 24025-2, *Plastics — Sulfone polymer moulding and extrusion materials — Part 2: Preparation of test specimens and determination of properties*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 Designation system

4.1 General

The designation system for thermoplastics is based on the following standardized pattern.

| Designation | | | | | | |
|------------------------------|-------------------------------------|-----------------------|--------------|--------------|--------------|--------------|
| Designation 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 symbol PSU, PESU or PPSU in accordance with ISO 1043-1 and information about the composition of the polymer (see 4.2).

Data block 2: Fillers or reinforcing materials and their nominal content (see 4.3).

Data block 3: Position 1: Intended application or method of processing (see 4.4).

Positions 2 to 8: Important properties, additives and supplementary information (see 4.4).

Data block 4: Designatory properties (see 4.5).

Data block 5: For the purpose of alternative specifications, a fifth data block may be added containing additional information (see 4.6).

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 (,,).

4.2 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.