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INTERNATIONAL STANDARD

ISO 2580-1

Second edition
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Plastics — Acrylonitrile/butadiene/styrene (ABS) moulding and extrusion materials —

Part 1: Designation

Plastiques — Plastiques à base d'acrylonitrile/butadiène/styrène (ABS) pour moulage et extrusion —

Partie 1: Désignation

Reference number
ISO 2580-1:1990(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 2580-1 was prepared by Technical Committee ISO/TC 61, *Plastics*.

This second edition cancels and replaces the first edition (ISO 2580-1:1978), of which it constitutes a technical revision.

ISO 2580 consists of the following parts, under the general title *Plastics — Acrylonitrile/butadiene/styrene (ABS) moulding and extrusion materials*:

— *Part 1: Designation*

— *Part 2: Determination of properties*

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Plastics — Acrylonitrile/butadiene/styrene (ABS) moulding and extrusion materials —

Part 1:
Designation

1 Scope

1.1 This part of ISO 2580 establishes a system of designation for acrylonitrile/butadiene/styrene (ABS) thermoplastic materials, which may be used as the basis for specifications.

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

a) Vicat softening temperature,

b) melt flow rate,

c) impact strength and

d) flexural modulus,

and on information about composition, intended application, method of processing, important properties, additives, colour and fillers.

1.3 This designation system is applicable to all styrene/acrylonitrile copolymers comprised of a continuous phase, consisting of copolymers of styrene (and/or an alkyl-substituted styrene) and acrylonitrile, and a dispersed elastomeric phase based on butadiene, with the continuous phase having more than 10 % (*m*/*m*) of acrylonitrile.

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

This part of ISO 2580 does not apply to materials

— with an Izod impact strength less than 3 kJ/m^2,

— containing more than 5 % (*m*/*m*) of comonomers other than those mentioned in 1.3,

— containing less than 40 % (*m*/*m*) of butadiene in the elastomer of the elastomeric phase.

1.4 It is not intended to imply that materials having the same designation give necessarily the same performance. This part of ISO 2580 does not provide engineering data, performance data or data on processing conditions which may be required to specify a material for a particular application or method of processing.

If such additional properties are required, they shall be determined in accordance with the test methods specified in ISO 2580-2, if suitable.

1.5 In order to specify a thermoplastic material for a particular application, additional requirements may be specified in Data Block 5 (see clause 3).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 2580. 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 2580 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 178:1975, *Plastics — Determination of flexural properties of rigid plastics.*

ISO 180:1982, *Plastics — Determination of Izod impact strength of rigid materials.*

ISO 293:1986, *Plastics — Compression moulding test specimens of thermoplastic materials.*

ISO 306:1987, *Plastics — Thermoplastic materials — Determination of Vicat softening temperature.*

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 1133:1981, *Plastics — Determination of the melt flow rate of thermoplastics.*

ISO 1656:1988, *Rubber, raw natural, and rubber latex, natural — Determination of nitrogen content.*

ISO 2557-1:1989, *Plastics — Amorphous thermoplastics — Preparation of test specimens with a specified maximum reversion — Part 1: Bars.*

ISO 2580-2:1982, *Plastics — Acrylonitrile/butadiene/styrene (ABS) moulding and extrusion materials — Part 2: Determination of properties.*

ISO 8328:1989, *Plastics — Amorphous thermoplastic moulding materials — Determination of maximum reversion.*

3 Designation system

The designation system for thermoplastics is based on the standardized pattern given in figure 1.

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 4 data blocks comprising the following information:

Data Block 1: Identification of the plastic by its symbol (ABS) and information about the composition of the copolymer (see 3.1).

Data Block 2: Position 1: Intended application or method of processing (see 3.2).

Positions 2 to 4: 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 the nominal content thereof (see 3.4).

For the purpose of specifications, a fifth data block may be added containing additional information. The kind of information and the code-letters used are not the subject of this part of ISO 2580.

The first character of the Individual Item Block shall be a hyphen.

The four 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 (,,).

<table>
<tr><td colspan="6">Designation</td></tr>
<tr><td rowspan="3">Description Block (optional)</td><td colspan="5">Identity Block</td></tr>
<tr><td rowspan="2">International Standard Block</td><td colspan="4">Individual Item Block</td></tr>
<tr><td>Data Block 1</td><td>Data Block 2</td><td>Data Block 3</td><td>Data Block 4</td><td>Data Block 5</td></tr>
</table>

Figure 1 — Data block designation system