
Plastics — Acrylonitrile-styrene-acrylate (ASA), acrylonitrile-(ethylene-propylene-diene)-styrene (AEPDS) and acrylonitrile-(chlorinated polyethylene)-styrene (ACS) moulding and extrusion materials —

Part 1:
Designation system and basis for specifications

Plastiques — Matériaux pour moulage et extrusion à base d'acrylonitrile-styrène-acrylate (ASA), d'acrylonitrile-(éthylène-propylène-diène)-styrène (AEPDS) et d'acrylonitrile-(polyéthylène chloré)-styrène (ACS) —

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 3.

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 part of ISO 6402 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 6402-1 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

This fourth edition cancels and replaces the third edition (ISO 6402-1:2001), which has been technically revised.

ISO 6402 consists of the following parts, under the general title *Plastics — Acrylonitrile-styrene-acrylate (ASA), acrylonitrile-(ethylene-propylene-diene)-styrene (AEPDS) and acrylonitrile-(chlorinated polyethylene)-styrene (ACS) 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 — Acrylonitrile-styrene-acrylate (ASA), acrylonitrile-(ethylene-propylene-diene)-styrene (AEPDS) and acrylonitrile-(chlorinated polyethylene)-styrene (ACS) moulding and extrusion materials —

Part 1:

Designation system and basis for specifications

1 Scope

1.1 This part of ISO 6402 establishes a system of designation for acrylonitrile-styrene-acrylate (ASA), acrylonitrile-(ethylene-propylene-diene)-styrene (AEPDS) and acrylonitrile-(chlorinated polyethylene)-styrene (ACS) moulding and extrusion materials, which may be used as the basis for specifications.

1.2 The types of ASA, AEPDS and ACS plastic are differentiated from each other by a classification system based on appropriate levels of the designatory properties

- a) Vicat softening temperature
- b) melt volume-flow rate
- c) Charpy notched impact strength
- d) tensile modulus

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 6402 is applicable to all ASA, AEPDS and ACS materials consisting of a continuous phase based mainly on styrene-acrylonitrile (SAN) copolymer (in which the styrene component may be styrene itself and/or alkyl-substituted styrene) and a dispersed elastomeric phase based mainly on

acrylate (ASA materials),

ethylene-propylene-diene (EPDM) (AEPDS materials),

chlorinated polyethylene (ACS materials),

with or without other components, in such quantities as specified in data block 1.

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

ISO 6402-1:2002 does not apply to materials

- a) containing less than 10 % by mass of acrylonitrile in the continuous phase;
- b) with a Charpy notched impact strength of less than 3 kilojoules per square metre;
- c) containing less than 50 % by mass of acrylate in the elastomeric phase in the case of ASA;
- d) containing less than 50 % by mass of ethylene-propylene-diene in the elastomeric phase in the case of AEPDS;
- e) containing less than 50 % by mass of chlorinated polyethylene in the elastomeric phase in the case of ACS.

1.4 It is not intended to imply that materials having the same designation give necessarily the same performance. This part of ISO 6402 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 particular application or to ensure reproducible processing, additional requirements may be given in data block 5 (see 3.1).

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 6402. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 6402 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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

ISO 6402-2, *Plastics — Acrylonitrile-styrene-acrylate (ASA), acrylonitrile-(ethylene-propylene-diene)-styrene (AEPDS) and acrylonitrile-(chlorinated polyethylene)-styrene (ACS) 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