



# SLOVENSKI STANDARD SIST EN ISO 6402-1:2000

01-maj-2000

Dc`ja Yfb]a UHyf]U]!`A UHyf]U]`nUcV]\_cj Ub`Y]b`Y\_gfii X]fUb`Y]n`dfch]i XUfWVa  
cXdcfb]`\_cdc`ja Yfcj `U\_f]cb]f]`#ghfYb`f5 G5 ž5 9 Gž5 7 GžfUhYb`a UHyf]Ucj ž  
a cX]ZVfUb]`n`Vi HUX]Ybca `!`%`XY.`G]ghYa `cnbU Yj Ub`U]b`dcX`U` Y`nUgdYVZ`\_UW`Y  
fIGC`\* ( \$&!%% - +Ł

Plastics - Impact-resistant acrylonitrile/styrene (ASA, AES, ACS) moulding and extrusion materials, excluding butadiene-modified materials - Part 1: Designation system and basis for specifications (ISO 6402-1:1997)

**iTeh STANDARD PREVIEW**

Kunststoffe - Schlagzähe Acrylnitril/Styrol (ASA, AES, ACS)-Formmassen außer Butadien-modifizierten Materialien Teil 1: Bezeichnungssystem und Basis für Spezifikationen (ISO 6402-1:1997) [SIST EN ISO 6402-1:2000](https://standards.iteh.ai/catalog/standards/sist/275e7694-dd8b-41e6-ba80-32e56658ad08/sist-en-iso-6402-1-2000)

<https://standards.iteh.ai/catalog/standards/sist/275e7694-dd8b-41e6-ba80-32e56658ad08/sist-en-iso-6402-1-2000>

Plastiques - Acrylonitrile/styrene sans butadiene résistant au choc (ASA, AES, ACS) pour moulage et extrusion - Partie 1: Systeme de désignation et base de spécification (ISO 6402-1:1997)

**Ta slovenski standard je istoveten z: EN ISO 6402-1:1999**

**ICS:**

83.080.20      Plastomeri      Thermoplastic materials

**SIST EN ISO 6402-1:2000**      en

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN ISO 6402-1:2000

<https://standards.iteh.ai/catalog/standards/sist/275e7694-dd8b-41e6-ba80-32e56658ad08/sist-en-iso-6402-1-2000>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN ISO 6402-1

May 1999

ICS 83.080.20

Descriptors:

English version

Plastics - Impact-resistant acrylonitrile/styrene (ASA, AES, ACS) moulding and extrusion materials, excluding butadiene-modified materials - Part 1: Designation system and basis for specifications (ISO 6402-1:1997)

Plastiques - Acrylonitrile/styrène sans butadiène résistant au choc (ASA, AES, ACS) pour moulage et extrusion - Partie 1: Système de désignation et base de spécification (ISO 6402-1:1997)

Kunststoffe - Schlagzähe Acrylnitril/Styrol (ASA, AES, ACS)-Formmassen außer Butadien-modifizierten Materialien - Teil 1: Bezeichnungssystem und Basis für Spezifikationen (ISO 6402-1:1997)

This European Standard was approved by CEN on 18 April 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



REPUBLIKA SLOVENIJA  
MINISTRSTVO ZA ZNANOST IN TEHNOLOGIJO  
Urad RS za standardizacijo in meroslovje  
LJUBLJANA

SIST... EN ISO 6402-1

PREVZET PO METODI RAZGLASITVE



-05- 2000

EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Page 2  
EN ISO 6402-1:1999

## Foreword

The text of the International Standard from Technical Committee ISO/TC 61 "Plastics" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by IBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 1999, and conflicting national standards shall be withdrawn at the latest by November 1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

### Endorsement notice

The text of the International Standard ISO 6402-1:1997 has been approved by CEN as a European Standard without any modification.

[SIST EN ISO 6402-1:2000](https://standards.iteh.ai/catalog/standards/sist/275e7694-dd8b-41e6-ba80-32e56658ad08/sist-en-iso-6402-1-2000)

<https://standards.iteh.ai/catalog/standards/sist/275e7694-dd8b-41e6-ba80-32e56658ad08/sist-en-iso-6402-1-2000>



# INTERNATIONAL STANDARD

# ISO 6402-1

Second edition  
1997-07-01

---

---

## Plastics — Impact-resistant acrylonitrile/styrene (ASA, AES, ACS) moulding and extrusion materials, excluding butadiene-modified materials —

### Part 1:

**Designation system and basis for  
specifications**

*Plastiques — Acrylonitrile/styrène sans butadiène résistant au choc (ASA, AES, ACS) pour moulage et extrusion*  
*Partie 1: Système de désignation et base de spécification*



Reference number  
ISO 6402-1:1997(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.

iTeh STANDARD PREVIEW

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

This second edition cancels and replaces the first edition (ISO 6402-1:1990), the text of which has been brought into accordance with the standard SC 9 frame text.

ISO 6402 consists of the following parts, under the general title *Plastics — Impact-resistant acrylonitrile/styrene (ASA, AES, ACS) moulding and extrusion materials, excluding butadiene-modified materials*:

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

© ISO 1997

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization  
Case postale 56 • CH-1211 Genève 20 • Switzerland  
Internet central@iso.ch  
X.400 c=ch; a=400net; p=iso; o=isocs; s=central

Printed in Switzerland

# Plastics — Impact-resistant acrylonitrile/styrene (ASA, AES, ACS) moulding and extrusion materials, excluding butadiene-modified materials —

## Part 1: Designation system and basis for specifications

### 1 Scope

**1.1** This part of ISO 6402 establishes a system of designation for impact-resistant acrylonitrile/styrene (or substituted styrene) thermoplastic material, excluding butadiene-modified materials, which may be used as the basis for specifications.

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

**1.2** The types of impact-resistant acrylonitrile/styrene plastic are differentiated from each other by a classification system based on appropriate levels of the designatory properties

<https://standards.iteh.ai/catalog/standards/sist/275e7694-dd8b-41e6-ba80-32e56658ad08/sist-en-iso-6402-1-2000>

- a) Vicat softening temperature
- b) melt flow rate
- c) Izod impact strength
- d) flexural modulus

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

**1.3** This part of ISO 6402 is applicable to all impact-resistant acrylonitrile/styrene thermoplastic materials, excluding butadiene-modified materials, having as impact modifier a dispersed elastomeric phase, free of double bonds of the butadiene type, based on

- acrylic ester (ASA materials);
- ethylene-propylene-diene (EPDM) (AES materials);
- chlorinated polyethylene (ACS materials).

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

This part of ISO 6402 does not apply to materials

- a) containing less than 10 % (*m/m*) acrylonitrile in the continuous phase;
- b) with an Izod impact strength of less than 3 kJ/m<sup>2</sup>;
- c) containing more than 5 % (*m/m*) of another comonomer or polymer in the continuous phase.

**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 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 6402. 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 6402 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 1043-1:1997, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics*.

[SIST EN ISO 6402-1:2000](https://standards.iteh.ai/catalog/standards/sist/275e7694-dd8b-41e6-ba80-32c56658ad68/sist-en-iso-6402-1-2000)

ISO 1043-2:1988, *Plastics — Symbols — Part 2: Fillers and reinforcing materials*.

<https://standards.iteh.ai/catalog/standards/sist/275e7694-dd8b-41e6-ba80-32c56658ad68/sist-en-iso-6402-1-2000>

ISO 1656:1996, *Rubber, raw natural, and rubber latex, natural — Determination of nitrogen content*.

ISO 6402-2:1994, *Plastics — Impact-resistant acrylonitrile/styrene (ASA, AES, ACS) moulding and extrusion materials, excluding butadiene-modified 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 ASA, AES or ACS in accordance with ISO 1043-1 and information about the polymerization process or composition of the polymer (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 (see 3.4).
- 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 (,,).

### 3.1 Data block 1

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

In this data block, after the hyphen, impact-resistant acrylonitrile/styrene plastics are identified by the symbol ASA, AES or ACS, in accordance with ISO 1043-1, and, after a space, the acrylonitrile content of the continuous phase is designated by a single-figure code-number as specified in table 1.

<https://standards.iteh.ai/catalog/standards/sist/275e7694-dd8b-41e6-ba80-32e56658ad08/sist-en-iso-6402-1-2000>

**Table 1 — Ranges of acrylonitrile content in data block 1**

Code number	Range of AN content % (m/m)
1	> 10 but ≤ 30
2	> 30

For the purposes of this part of ISO 6402, the AN content of the continuous phase shall be determined by the Kjeldahl method, as specified in ISO 1656, or alternatively by a pyrolysis/thermal-conductivity method.

### 3.2 Data block 2

In this data block, information about 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 2.

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.