

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 (ISO 19065-1:2014)

## EESTI STANDARDI EESSÕNA

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Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 03.12.2014.	Date of Availability of the European standard is 03.12.2014.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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ICS 83.080.20

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English Version

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 (ISO 19065-1:2014)

Plastiques - Matériaux plastique acrylonitrile-styrène-acrylate (ASA), plastique acrylonitrile-(éthylène-propylène-diène)-styrène (AEPDS) et plastique acrylonitrile-(polyéthylène chloré)-styrène (ACS) pour moulage et extrusion - Partie 1: Système de désignation et base de spécifications (ISO 19065-1:2014)

Kunststoffe - Acrylnitril-Styrol-Acrylester (ASA)-, Acrylnitril-(Ethylen-Propylen-Dien)-Styrol (AEPDS)- und Acrylnitril-(Chloriertes Polyethylen)-Styrol (ACS)-Formmassen - Teil 1: Bezeichnungssystem und Basis für Spezifikationen (ISO 19065-1:2014)

This European Standard was approved by CEN on 18 October 2014.

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## Foreword

This document (EN ISO 19065-1:2014) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration Technical Committee CEN/TC 249 "Plastics" the secretariat of which is held by NBN.

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of an identical text or by endorsement, at the latest by June 2015, and conflicting national standards shall be withdrawn at the latest by June 2015.

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

This document supersedes EN ISO 6402-1:2002.

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### Endorsement notice

The text of ISO 19065-1:2014 has been approved by CEN as EN ISO 19065-1:2014 without any modification.

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## Introduction

ISO 6402-1:2002 is complex and does not fit with daily practice anymore. In practice ISO 1043 and ISO 11469 are, in combination, 'improperly' being used as a designation system for e.g. marking. The aim of this International Standard is to simplify the data block system and to connect more to ISO 1043 and ISO 11469, where the first two blocks are used for generic identification and marking of products.

# 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 19065 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 19065 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.

This part of ISO 19065 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 kJ/m<sup>2</sup>;
- 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 19065 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 are to be determined in accordance with the test methods specified in ISO 6402-2, 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 documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 1043-2, *Plastics — Symbols and abbreviated terms — Part 2: Fillers and reinforcing materials*

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

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 (ASA, AEPDS, ACS) in accordance with ISO 1043-1 and information about the composition of the polymer (see [3.2](#)).

Data block 2: Fillers or reinforcing materials and their nominal content (see [3.3](#)).

Data block 3: First letter: Intended application and/or method of processing (see [3.4](#)).

Letters 2 to 8: Important properties, additives and supplementary information (see [3.4](#)).