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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 46829.1-2025

**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**

塑料 丙烯腈-苯乙烯-丙烯酸酯 (ASA)、丙烯腈-(乙烯-丙烯-二烯烃)-苯乙烯 (AEPDS) 和丙烯腈-(氯化聚乙烯)-苯乙烯 (ACS) 模塑和挤出材料 第1部分: 命名系统和分类基础

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is GB/T 46829 "Plastics Acrylonitrile-Styrene-Acrylate (ASA), Acrylonitrile-(Ethylene-Propylene-Diolefin)-Benzene".

Part 1 of GB/T 46829, "Ethylene (AEPDS) and Acrylonitrile-(Chlorinated Polyethylene)-Styrene (ACS) Molding and Extrusion Materials".

The following sections have been published.

---Part 1: Naming Systems and Classification Basics;

---Part 2: Sample preparation and performance determination.

This document is modified to adopt ISO 19065-1:2014 "Plastics - Acrylonitrile - Styrene - Acrylates (ASA), Acrylonitrile - (Ethylene-propylene-) Diene-Styrene (AEPDS) and Acrylonitrile-(Chlorinated Polyethylene)-Styrene (ACS) Molding and Extrusion Materials Part 1: Nomenclature "Unified Classification Basis".

This document has undergone the following structural adjustments compared to ISO 19065-1:2014.

---A new Chapter 3, "Terminology and Definitions," has been added;

---Chapter 4 corresponds to Chapter 3 of ISO 19065-1:2014;

---Section 2 of 4.6 corresponds to section 1.5 of ISO 19065-1:2014;

---Chapter 5 corresponds to Chapter 4 of ISO 19065-1:2014.

The technical differences between this document and ISO 19065-1:2014, and the reasons therefor, are as follows.

a) ISO 1043-1 (see 4.1 and 4.2) has been replaced with the normatively referenced GB/T

1844.1 to adapt to my country's technical conditions, and [the following is added].

Increase operability;

b) Normative reference to ISO 1043-2 (see section 4.3 of ISO 19065-1:2014) has been removed to make the standard clearer and easier to understand.

Application of this document;

c) A description of rounding down the mass fraction of fillers and/or reinforcing materials has been added (see 4.3) to facilitate the application of this document;

d) Added a description to character group 3 regarding the omission of the designations for natural color (N) and/or particle (G) (see 4.4) to make the standard more standardized.

clear;

e) ISO 19065-2 (see 4.5.2~4.5.5) has been replaced with the normatively referenced GB/T 46829.2 to adapt to my country's technical requirements.

Add components to increase operability;

f) The conditions for pre-test sample storage have been changed (see 4.5.2 and 4.5.3) to increase operability;

g) The effective digits of the melt volumetric flow rate and the notched impact strength of the simply supported beam were modified (see 4.5.3 and 4.5.4) to suit Chinese conditions.

The technical conditions are improved to increase operability.

The following editorial changes have been made to this document.

---Added footnotes to normative references explaining the changes in ISO 6402-2 (see Chapter 2);

---Added one example of a naming abbreviation in the naming examples (see Chapter 5).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Petroleum and Chemical Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Plastics Standardization (SAC/TC15).

Introduction

GB/T 46829 Plastics Acrylonitrile-Styrene-Acrylate (ASA),
Acrylonitrile-(Ethylene-propylene-diene)-Styrene the "(AEPDS) and
Acrylonitrile-(Chlorinated Polyethylene)-Styrene (ACS) Molding and Extrusion Materials" is
proposed to consist of two parts.

---Part 1: Naming System and Classification Foundations. The aim is to establish a standard model applicable to ASA, AEPDS, and ACS.

The naming conventions and classification principles of materials.

---Part 2: Sample Preparation and Performance Determination. The aim is to establish sample preparation methods suitable for ASA, AEPDS, and ACS materials.

Preparation methods and performance testing items, methods, and conditions.

Plastics Acrylonitrile-Styrene-Acrylic (ASA) Acrylonitrile-(ethylene-propylene-diene)-styrene (AEPDS) and Acrylonitrile-(chlorinated polyethylene)-styrene (ACS) Molding and Extrusion Materials Part 1: Nomenclature System and classification basis

1 Scope

This document specifies acrylonitrile-styrene-acrylate (ASA), acrylonitrile-(ethylene-propylene-diene)-styrene (AEPDS), and propylene glycol.

The basis for the nomenclature system and classification of acrylonitrile-(chlorinated polyethylene)-styrene (ACS) thermoplastics.

Different types of ASA, AEPDS, and ACS thermoplastics are recommended for use with the following specified characteristic property values, composition information, and recommendations.

They are distinguished by a classification system based on application and/or processing method, key properties, additives, fillers, and reinforcing plastics.

- a) Vicat softening temperature;
- b) Melt volumetric flow rate;
- c) Notched impact strength of a simply supported beam;
- d) Tensile modulus of elasticity.

This document applies to all ASA, AEPDS, and ACS materials, which are primarily based on styrene-acrylonitrile (SAN) copolymers.

The following phases (in which the styrene component may be styrene itself and/or alkyl-substituted styrene) and the following materials are dispersed phases.

---Acrylic ester (ASA);

---Ethylene Propylene Diene Monomer (AEPDS);

---Chlorinated polyethylene (ACS).

And as shown in character group 1, it may or may not contain other components and quantities.

This document applies to materials that are typically in powder, granule, or broken-grain form, and are either unmodified or modified with colorants, additives, fillers, etc.

This document does not apply to the following materials.

- a) The mass fraction of acrylonitrile in the continuous phase is less than 10%;
- b) The notched impact strength of a simply supported beam is less than 3 kJ/m²;
- c) In the case of ASA, the mass fraction of acrylate in the elastomer phase is less than 50%;
- d) In the case of AEPDS, the mass fraction of ethylene-propylene-diene in the elastomeric phase of the shell is less than 50%;
- e) In the case of ACS, the mass fraction of chlorinated polyethylene in the elastomer phase is less than 50%.

This document does not imply that materials with the same name have the same properties. This document does not provide information for describing the special uses and/or processing of materials.

The engineering data, performance data, or process parameters required for the method. If necessary, these should be determined using the test methods specified in GB/T 46829.2.

Additional performance.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 1844.1 Plastic symbols and abbreviations - Part 1: Basic polymers and their characteristic properties (GB/T 1844.1-2022)