



SLOVENSKI STANDARD
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Polimerni materiali - Priporočila za kakovost in podlaga za specifikacije za uporabo polimernih reciklatov v izdelkih - 7. del : Akrlonitril-butadien-stiren (ABS)

Plastics - Quality recommendations and basis for specifications for application of plastic recyclates in products - Part 7 : Acrylonitrile- butadiene-styrene (ABS)

Kunststoffe - Qualitätsempfehlungen und Grundlagen für Spezifikationen für die Verwendung von Kunststoffrecyklaten in Produkten - Teil 7: Poly(acrylo-butadien-styrol) (ABS)

Plastiques - Recommandations qualité et base de spécification pour l'application des recyclats de plastiques dans les produits - Partie 7 : Acrylonitrile-butadiène-styrène (ABS)

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Plastics - Quality recommendations and basis for
specifications for application of plastic recyclates in
products - Part 7 : Acrylonitrile- butadiene-styrene (ABS)

Kunststoffe - Qualitätsempfehlungen und Grundlagen
für Spezifikationen für die Verwendung von
Kunststoffrezyklaten in Produkten - Teil 8:
Poly(acrylo-butadien-styrol) (ABS)

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 249.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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European foreword

This document (prEN 18064-7:2024) has been prepared by Technical Committee CEN/TC 249 “plastics”, the secretariat of which is held by SIS.

This document is currently submitted to the CEN Enquiry.

This document is part of the EN 18064¹-series, currently consisting of all parts as listed below. This series of standards consists of a general part 1, and material specific parts for different types of plastics. This particular part covers typical values (ranges, or min./max. values) for acrylonitrile-butadiene-styrene (ABS) general purpose plastics, that can be composed of 100 % recyclates (mechanical and/or chemical), or a combination of recyclates and virgin plastic.

This part is supported by other standards on test methods to which references are made throughout this document.

EN 18064, *Plastics — Quality recommendations and basis for specifications for application of plastic recyclates in products*, is currently composed with the following parts:

- Part 1: *General aspects*
- Part 2: *Polyethylene (PE)*
- Part 3: *Polypropylene (PP)*
- Part 4: *Poly(ethylene terephthalate) (PET)*
- Part 5: *Poly(vinyl chloride) (PVC)*
- Part 6: *Polystyrene (PS)*
- Part 7: *Acrylonitrile-butadiene-styrene (ABS)*

NOTE: Part 6 for PS also includes EPS and XPS.

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Introduction

See prEN 18064-1.

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1 Scope

This document provides relevant characteristics and typical values for Acrylonitrile-butadiene-styrene (ABS) recyclates intended for groups of defined applications (the product families).

The relevant characteristics and typical values for the different product families are derived from the performance requirements of the products belonging to that family, including requirements for product manufacturing processes where applicable.

This document applies to plastic recyclates intended to be used for the manufacturing of (intermediate) products.

This document is intended to be used in conjunction with part 1 of this standard series, which describes the designation system for plastic recyclates. The designation system allows comparison between recycled and virgin material at the level of the polymer's defined designatory properties.

NOTE 1 Examples of designations of plastic recyclates are given in Annex A.

NOTE 2 The selection of relevant properties for a product family is based on EN ISO 10350-1, extended with specific properties related to plastic recyclates.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

prEN 18065², *Plastics - Recycled Plastics - Classification of recycled plastics based on Data Quality Levels for use and (digital) trading*

prEN 18067³, *Plastics - Recycled plastics - Characterization of Acrylonitrile-butadiene-styrene (ABS) recyclates*

ASTM D6980 17, *Standard Test Method for Determination of Moisture in Plastics by Loss in Weight*

CEN/TR 15353, *Plastics - Recycled plastics - Guidelines for the development of standards for recycled plastics*

prEN 18064-1⁴, *Plastics - Quality recommendations and basis for specifications for application of plastic recyclates in products - Part 1: General aspects (under preparation)*

EN 13130-4, *Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 4: Determination of 1,3-butadiene in plastics*

EN 15343, *Plastics - Recycled Plastics - Plastics recycling traceability and assessment of conformity and recycled content*

EN 17615, *Plastics - Environmental Aspects - Vocabulary*

² Under preparation.

³ Under preparation.

⁴ Under preparation.

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EN ISO 60, *Plastics - Determination of apparent density of material that can be poured from a specified funnel (ISO 60)*

EN ISO 179-1, *Plastics - Determination of Charpy impact properties - Part 1: Non-instrumented impact test (ISO 179-1)*

EN ISO 180, *Plastics - Determination of Izod impact strength (ISO 180)*

EN ISO 306, *Plastics - Thermoplastic materials - Determination of Vicat softening temperature (VST) (ISO 306)*

EN ISO 472, *Plastics - Vocabulary (ISO 472)*

EN ISO 527-1, *Plastics - Determination of tensile properties - Part 1: General principles (ISO 527-1)*

EN ISO 527-2, *Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2)*

EN ISO 527-3, *Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets (ISO 527-3)*

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

EN ISO 1133-1, *Plastics - Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics - Part 1: Standard method (ISO 1133-1)*

EN ISO 1133-2, *Plastics - Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics - Part 2: Method for materials sensitive to time-temperature history and/or moisture (ISO 1133-2)*

EN ISO 1183-1, *Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method (ISO 1183-1:2019, Corrected version 2019-05)*

EN ISO 3451-1, *Plastics - Determination of ash - Part 1: General methods (ISO 3451-1)*

EN ISO 15512, *Plastics - Determination of water content (ISO 15512)*

EN ISO 19062-1, *Plastics - Acrylonitrile-butadiene-styrene (ABS) moulding and extrusion materials - Part 1: Designation system and basis for specifications (ISO 19062-1)*

EN ISO 19062-2, *Plastics - Acrylonitrile-butadiene-styrene (ABS) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties (ISO 19062-2)*

VDA 278, *Thermal Desorption Analysis of Organic Emissions for the Characterization of Non-Metallic Materials for Automobiles*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 472, EN 17615 and CEN/TR 15353 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1.1

typical value

indicative value intended for first contact, e. g. between converter and recycler

Note 1 to entry: Final values to be agreed e.g. between converter and recycler.

3.2 Abbreviations

For the purposes of this document, abbreviated terms related to recyclates given in EN ISO 1043-1 and prEN 18067⁵ apply.

4 Categorization of acrylonitrile-butadiene-styrene (ABS) applications and requirements

The product families in combination with the relevant production technologies are given in Annex B. In here description is given of the intended use(s) of these product families (for example impact resistant application), and for which products these can be used (containers, sheet materials, ...).

5 Selection of relevant properties for acrylonitrile-butadiene-styrene (ABS) recyclates

The mandatory and optional characteristics are given in prEN 18067⁶.

Relevant characteristics per product family in combination with the relevant production technologies are given in Annex B.

NOTE Next to mandatory characteristics from prEN 18067, this can include the optional characteristics given in prEN 18067⁷, EN ISO 19062-2 and ISO 10350-1.

6 Typical range for characteristics of product families

The relevant typical characteristics are specified in Annex B, which provides typical values (min/max values or a range as applicable) for the relevant characteristics for that product family in combination with the relevant production technologies. This information is intended to be used for material selection by buyers of recyclate.

NOTE This part is not intended for use as a specification system, and hence cannot be used as a means to guarantee a certain recyclate quality to a buyer of plastic recyclate.

7 Designation of acrylonitrile-butadiene-styrene (ABS) recyclates

The principle for this designation system is given in prEN 18064-1, the ISO/IEC Directives, Part 2, 2021, and Annex A.

This designation provides a code describing how to declare characteristics and related typical values for recyclate materials, intended to be used for a defined category group (product family), enabling effective

⁵ Under preparation.

⁶ Under preparation.

⁷ Under preparation.

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communication between supplier and purchaser of recyclate materials, based on the intended use (product family in combination with the relevant production technologies).

Below, an example of designation of an Acrylonitrile-butadiene-styrene thermoplastic material is given, based on the first example given in EN ISO 19062-1.

Annex A provides designatory properties of polyethylene recyclates given in EN ISO 19062-1.

Under A.2.7 examples of designation of a polyethylene thermoplastic material are given.

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