



**SLOVENSKI STANDARD**  
**oSIST prEN 18064-5:2024**  
**01-april-2024**

---

**Polimerni materiali - Priporočila za kakovost in podlaga za specifikacije za uporabo polimernih reciklatov v izdelkih - 5. del: Poli(vinilklorid) (PVC)**

Plastics - Quality recommendations and basis for specifications for application of plastic recyclates in products - Part 5 : Poly(vinyl chloride) (PVC)

Kunststoffe - Qualitätsempfehlungen und Grundlagen für Spezifikationen für die Verwendung von Kunststoffrecyklaten in Produkten - Teil 5: Poly(Vinylchlorid) (PVC)

Plastiques - Recommandations qualité et base de spécification pour l'application des recyclats de plastiques dans les produits - Partie 5 : Poly(chlorure de vinyle) (PVC)

**Ta slovenski standard je istoveten z: prEN 18064-5**

[oSIST prEN 18064-5:2024](https://standards.slovenski.si/standards/slovenski/2024-10-01/18064-5:2024)

**ICS:**

13.030.50	Recikliranje	Recycling
83.080.01	Polimerni materiali na splošno	Plastics in general

**oSIST prEN 18064-5:2024**

**en,fr,de**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 18064-5**

April 2024

ICS 83.140.01; 13.030.50; 83.080.01

English Version

**Plastics - Quality recommendations and basis for  
specifications for application of plastic recyclates in  
products - Part 5 : Poly(vinyl chloride) (PVC)**

Kunststoffe - Qualitätsempfehlungen und Grundlagen  
für Spezifikationen für die Verwendung von  
Kunststoffrezyklaten in Produkten - Teil 4:  
Poly(Vinylchlorid) (PVC)

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

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.

**Warning** : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

<b>Contents</b>	<b>Page</b>
European foreword .....	3
Introduction .....	4
1 Scope.....	5
2 Normative references.....	5
3 Terms, definitions and abbreviations .....	6
3.1 Terms and definitions .....	6
3.2 Abbreviations.....	7
4 Categorization of polyvinylchloride (PVC) applications and requirements .....	7
5 Selection of relevant properties for polyvinylchloride (PVC) recyclates.....	7
6 Typical range for characteristics of product families.....	7
7 Designation of polyvinylchloride (PVC) recyclates .....	7
Annex A (normative) Designatory properties polyvinylchloride recyclate .....	8
A.1 Generic and additional designatory properties .....	8
A.2 Designation of polyvinylchloride recyclate.....	8
A.2.1 General.....	8
A.2.2 Data block 1 .....	8
A.2.3 Data block 2 .....	9
A.2.4 Data block 3 .....	9
A.2.5 Data block 4 .....	9
A.2.5.1 General.....	9
A.2.5.2 Vicat softening temperature .....	10
A.2.5.3 Impact strength .....	10
A.2.5.4 Modulus of elasticity.....	11
A.2.6 Data block 5 .....	11
A.2.7 Designation examples .....	12
A.2.7.1 First designation example from EN ISO 21306-1 .....	12
Annex B (normative) Typical values for product families .....	13
B.1 Typical values.....	13
Bibliography .....	20

## European foreword

This document (prEN 18064-5:2024) 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 18064-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 polyvinylchloride (PVC) 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.

**prEN 18064-5:2024 (E)**

## **Introduction**

See prEN 18064-1.

**iTeh Standards**  
**(<https://standards.iteh.ai>)**  
**Document Preview**

[oSIST prEN 18064-5:2024](https://standards.iteh.ai/catalog/standards/sist/aeaf2cc6-16c9-45a5-b06f-ddd1b7dd8cf6/osist-pren-18064-5-2024)

<https://standards.iteh.ai/catalog/standards/sist/aeaf2cc6-16c9-45a5-b06f-ddd1b7dd8cf6/osist-pren-18064-5-2024>

## 1 Scope

This document provides relevant characteristics and typical values for poly(vinyl chloride) (PVC) 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.

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

prEN 18604-1<sup>1</sup>, *Plastics — Quality recommendations and basis for specifications for application of plastic recyclates in products — Part 1: General aspects*

EN 12608 (all parts), *Unplasticized poly(vinyl chloride) (PVC-U) profiles for the fabrication of windows and doors — Classification, requirements and test methods*

<https://standards.iteh.ai/document/EN/15346>, *Plastics - Recycled plastics - Characterization of poly(vinyl chloride) (PVC) recyclates*

EN 17410, *Plastics - Controlled loop recycling of PVC-U profiles from windows and doors*

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

EN ISO 178, *Plastics - Determination of flexural properties (ISO 178)*

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

EN ISO 179-2, *Plastics - Determination of Charpy impact properties - Part 2: Instrumented impact test (ISO 179-2)*

ISO 182-1, *Plastics — Determination of the tendency of compounds and products based on vinyl chloride homopolymers and copolymers to evolve hydrogen chloride and any other acidic products at elevated temperatures — Part 1: Congo red method*

---

<sup>1</sup> Under preparation.

**prEN 18064-5:2024 (E)**

EN ISO 182-2, *Plastics - Determination of the tendency of compounds and products based on vinyl chloride homopolymers and copolymers to evolve hydrogen chloride and any other acidic products at elevated temperatures - Part 2: pH method (ISO 182-2)*

EN ISO 182-3, *Plastics - Determination of the tendency of compounds and products based on vinyl chloride homopolymers and copolymers to evolve hydrogen chloride and any other acidic products at elevated temperatures - Part 3: Conductometric method (ISO 182-3)*

EN ISO 182-4, *Plastics - Determination of the tendency of compounds and products based on vinyl chloride homopolymers and copolymers to evolve hydrogen chloride and any other acidic products at elevated temperatures - Part 4: Potentiometric method (ISO 182-4)*

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

EN ISO 472:2013, *Plastics - Vocabulary (ISO 472:2013)*

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 868, *Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868)*

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

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 1269, *Plastics - Homopolymer and copolymer resins of vinyl chloride - Determination of volatile matter (including water) (ISO 1269)*

EN ISO 3451-5, *Plastics - Determination of ash - Part 5: Poly(vinyl chloride) (ISO 3451-5)*

EN ISO 6186, *Plastics - Determination of pourability (ISO 6186)*

EN ISO 21306-1, *Plastics - Unplasticized poly(vinyl chloride) (PVC-U) moulding and extrusion materials - Part 1: Designation system and basis for specifications (ISO 21306-1)*

EN ISO 21306-2, *Plastics - Unplasticized poly(vinyl chloride) (PVC-U) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties (ISO 21306-2)*

### **3 Terms, definitions and abbreviations**

#### **3.1 Terms and definitions**

For the purposes of this document, the terms and definitions given in EN ISO 472:2013, CEN/TR 15353 and the following 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, the abbreviated terms related to recyclates given in EN ISO 1043-1 and prEN 18064-1 apply.

## 4 Categorization of polyvinylchloride (PVC) applications and requirements

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

## 5 Selection of relevant properties for polyvinylchloride (PVC) recyclates

The mandatory characteristics are given in EN 15346.

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

NOTE Next to mandatory characteristics from EN 15346, this can include the optional characteristics given in EN 15346, EN ISO 21306-2 and EN 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 polyvinylchloride (PVC) 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 communication between supplier and purchaser of recyclate materials, based on the intended use (product family in combination with the relevant production technologies).

Annex A provides designatory properties of polyvinylchloride thermoplastic recyclates given in EN ISO 21306-1.

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

## Annex A (normative)

### Designatory properties polyvinylchloride recycle

#### A.1 Generic and additional designatory properties

The types of polyvinylchloride plastics are differentiated from each other by a classification system based on appropriate levels of the designatory properties (EN ISO 21306-1) and the following additional designatory properties related to polyvinylchloride:

- a) Vicat softening temperature,
- b) impact strength (Charpy notched),
- c) tensile modulus of elasticity,
- d) information about chemical structure, method of processing, important properties, additives, colour, fillers and reinforcing materials.

#### A.2 Designation of polyvinylchloride recycle

##### A.2.1 General

The designation and specification system for thermoplastics is based on the following standardized pattern.

Designation						
Identity Block						
Description block (optional)	International Standard 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 coding, the individual-item block is subdivided into 5 data blocks comprising the following information.

For further information on this designation system refer to prEN 18064-1, EN ISO 21306-1 and ISO/IEC Directives, Part 2, 2021, Annex C.

##### A.2.2 Data block 1

In this data block, after the hyphen, unplasticized poly (vinyl chloride) plastics are identified by the symbol "PVC-U", in accordance with EN ISO 1043-1.

Furthermore, the Data Quality Level (DQL) should be added to data block 1 after another hyphen. To reach a certain DQL, several characteristics shall be added to a technical data sheet of the material. These characteristics are listed in prEN 18065.

In terms of the designation system a higher number of the DQL indicates a need for more information from the supplier.