

Plastics - Homopolymer and copolymer resins of vinyl chloride - Part 1: Designation system and basis for specifications (ISO 24024-1:2021)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 24024-1:2021 sisaldab Euroopa standardi EN ISO 24024-1:2021 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 24024-1:2021 consists of the English text of the European standard EN ISO 24024-1:2021.
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 and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 24.02.2021.	Date of Availability of the European standard is 24.02.2021.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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EUROPEAN STANDARD

**EN ISO 24024-1**

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## Plastics - Homopolymer and copolymer resins of vinyl chloride - Part 1: Designation system and basis for specifications (ISO 24024-1:2021)

Plastiques - Résines d'homopolymères et de copolymères de chlorure de vinyle - Partie 1: Système de désignation et base de spécifications (ISO 24024-1:2021)

Kunststoffe - Homo- und Copolymere des Vinylchlorids - Teil 1: Bezeichnungssystem und Basis für Spezifikationen (ISO 24024-1:2021)

This European Standard was approved by CEN on 8 February 2021.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

## European foreword

This document (EN ISO 24024-1:2021) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with 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of an identical text or by endorsement, at the latest by August 2021, and conflicting national standards shall be withdrawn at the latest by August 2021.

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

This document supersedes EN ISO 1060-1:1999.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 24024-1:2021 has been approved by CEN as EN ISO 24024-1:2021 without any modification.

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## 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 24024-1 cancels and replaces ISO 1060-1:1998, which has been technically revised.

The main changes compared to the previous edition are as follows:

- the positions of Data block 2 and Data block 4 in the old designation system have been changed;
- the last designation example has been deleted.

A list of all parts in the ISO 24024 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

# Plastics — Homopolymer and copolymer resins of vinyl chloride —

## Part 1: Designation system and basis for specifications

### 1 Scope

**1.1** This document establishes a system of designation for vinyl chloride thermoplastic resins which can be used as the basis for specifications.

**1.2** The types of vinyl chloride plastics are differentiated from each other by a classification system based on appropriate levels of the designatory properties:

- a) reduced viscosity;
- b) apparent density;
- c) retention on a 63  $\mu\text{m}$  mesh sieve;
- d) plasticizer absorption at room temperature (for general-purpose resins);
- e) the viscosity and the type of rheological behaviour of a standard paste (for paste resins only);

and on information about basic polymer parameters, polymerization processes and intended applications.

**1.3** This document is applicable to resins in powder form which consist of homopolymers of the monomer vinyl chloride and copolymers, terpolymers, etc., of vinyl chloride with one or more other monomers, but where vinyl chloride is the main constituent. The resins can contain small amounts of non-polymerized substances (e.g. emulsifying or suspending agents, catalyst residues, etc.) and other substances added during the course of polymerization.

**1.4** It is not intended to imply that materials having the same designation give necessarily the same performance. This document does not provide engineering data, performance data or data on processing conditions which can be required to specify a material for a particular application and/or method of processing.

If such additional properties are required, they are determined in accordance with the test methods specified in ISO 24024-2, if suitable.

**1.5** In order to specify a resin for a particular application or to ensure reproducible processing, additional requirements can be given in data block 5 (see [4.1](#)).

### 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.

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

ISO 24024-2, *Plastics — Homopolymer and copolymer resins of vinyl chloride — Part 2: Preparation of test samples and determination of properties*

### 3 Terms and definitions

No terms and definitions are listed in this document.

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

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

### 4 Designation and specification system

#### 4.1 General

The designation and specification 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 five data blocks providing the following information:

Data block 1: Identification of the plastic by its symbol (PVC, etc.) in accordance with ISO 1043-1 and information about the polymerization process and the composition of the polymer (see 4.2).

Data block 2: Fillers or reinforcing materials and their nominal content (not included in this document, see 4.3).

Data block 3: Intended application (see 4.4).

Data block 4: Designatory properties (see 4.5).

Data block 5: For the purpose of alternative specifications, a fifth data block may be added containing additional information (see 4.6).

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 ( , , ).

#### 4.2 Data block 1

In this data block, after the hyphen, poly(vinyl chloride) resins are identified by the symbol PVC for homopolymer or VC/.../... for copolymers / terpolymers respectively, in accordance with ISO 1043-1, followed, for copolymers / terpolymers, by a space and by a two-figure number indicating the