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**Plastics — Homopolymer and copolymer  
resins of vinyl chloride —**

**Part 1:**  
Designation system and basis for  
specifications

*Plastiques — Résines d'homopolymères et de copolymères de chlorure de  
vinyle —*

*Partie 1: Système de désignation et base de spécification*



## 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 1060-1 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

This second edition cancels and replaces the first edition (ISO 1060-1:1982) and includes the following main changes:

- a) the viscosity and the type of rheological behaviour of standard pastes have been introduced as designatory properties for paste resins;
- b) retention on a 63  $\mu\text{m}$  sieve has been introduced as a designatory property;
- c) plasticizer absorption has been introduced as a designatory property.

ISO 1060 consists of the following parts, under the general title *Plastics — Homopolymer and copolymer resins of vinyl chloride*:

- *Part 1: Designation system and basis for specifications*
- *Part 2: Preparation of test samples and determination of properties*

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# Plastics — Homopolymer and copolymer resins of vinyl chloride —

## Part 1:

### Designation system and basis for specifications

#### 1 Scope

**1.1** This part of ISO 1060 establishes a system of designation for vinyl chloride thermoplastic resins, which may 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 and filler resins only)
- 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 part of ISO 1060 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 may 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 part of ISO 1060 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 shall be determined in accordance with the test methods specified in part 2 of this International Standard, if suitable.

**1.5** In order to specify a resin for a particular application or to ensure reproducible processing, additional requirements may be given in data block 5 (see clause 3, introductory paragraph).

#### 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 1060. At the time of publication, the editions indicated were valid. All standards are subject to revision, and

parties to agreements based on this part of ISO 1060 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1043-1:1997, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics*.

ISO 1060-2:1998, *Plastics — Homopolymer and copolymer resins of vinyl chloride — Preparation of test samples and determination of properties*.

### 3 Designation and specification system

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 3.1).
- Data block 2: Intended application (see 3.2).
- Data block 3: Designatory properties (see 3.3).
- Data block 4: Fillers or reinforcing materials and their nominal content (not included in this standard).
- Data block 5: For the purpose of specifications, a fifth data block may be added containing additional information (see 3.4).

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 (,,).

#### 3.1 Data block 1

In this data block, after the hyphen, vinyl chloride polymer resins are identified by the symbol PVC or VC/./... for homopolymers or copolymers/terpolymers respectively, in accordance with ISO 1043-1, followed, for copolymers/terpolymers, by a space and by a two-figure number indicating the percentage content of combined vinyl chloride. This is calculated from the chlorine content determined in accordance with ISO 1060-2, using the equation

$$[VC] = 1,762 \, 9 \times [Cl]$$

After a hyphen, the polymerization process is indicated by a single code-letter as specified in table 1.