



# SLOVENSKI STANDARD

## SIST ISO 3672-1:2001

01-junij-2001

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Plastics -- Unsaturated-polyester resins (UP-R) -- Part 1: Designation system

Plastiques -- Résines de polyesters non saturés (UP-R) -- Partie 1: Système de  
désignation

**Ta slovenski standard je istoveten z: ISO 3672-1:2000**  
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### ICS:

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Duromeri

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# INTERNATIONAL STANDARD

**ISO**  
**3672-1**

Second edition  
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## Plastics — Unsaturated-polyester resins (UP-R) —

### Part 1: Designation system

*Plastiques — Résines de polyesters non saturés (UP-R) —  
Partie 1: Système de désignation*  
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this part of ISO 3672 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 3672-1 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 12, *Thermosetting materials*.

This second edition cancels and replaces the first edition (ISO 3672:1979), which has been technically revised.

ISO 3672 consists of the following parts, under the general title *Plastics — Unsaturated-polyester resins (UP-R)*:

— *Part 1: Designation system*

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— *Part 2: Preparation of test specimens and determination of properties*

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# Plastics — Unsaturated-polyester resins (UP-R) —

## Part 1: Designation system

### 1 Scope

**1.1** This part of ISO 3672 establishes a data block system for the designation of unsaturated-polyester resins (UP-R).

**1.2** The various types of UP-R are differentiated from each other by a classification system based on information about the basic polymer parameters, the possible fillers/reinforcements (type and content), the intended method of processing, any specified properties and those of the specified properties used specifically for designation purposes (designatory properties).

**1.3** This part of ISO 3672 is applicable to all types of unsaturated-polyester resin for normal use in a liquid state and in a solid state.

**1.4** It is not intended to imply that materials having the same designation necessarily give the same performance. This part of ISO 3672 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** To ensure that code-letters and code-numbers remain unambiguous and to avoid conflicts within the system, any new code-letters or code-numbers for use in data block 1, 2 or 3 shall be approved before use by the secretariats of ISO/TC 61/SC 1, SC 12 and SC 13.

### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 3672. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 3672 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 472:1999, *Plastics — Vocabulary*.

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

ISO 1043-2:2000, *Plastics — Symbols and abbreviated terms — Part 2: Fillers and reinforcing materials*.

ISO 2535:—<sup>1)</sup>, *Plastics — Unsaturated-polyester resins — Measurement of gel time at ambient temperature*.

1) To be published. (Revision of ISO 2535:1997)

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ISO 3219:1993, *Plastics — Polymers/resins in the liquid state or as emulsions or dispersions — Determination of viscosity using a rotational viscometer with defined shear rate.*

ISO 3672-2:2000, *Plastics — Unsaturated-polyester resins (UP-R) — Part 2: Preparation of test specimens and determination of properties.*

ISO 14848:1998, *Plastics — Unsaturated-polyester resins — Determination of reactivity at 130 °C.*

**3 Terms and definitions**

For the purposes of this part of ISO 3672, the terms and definitions given in ISO 472 and ISO 3672-2 apply, plus the following:

**3.1****UP-R**

the abbreviation for unsaturated-polyester resins

**4 Designation system****4.1 General**

The designation system defined in this part of ISO 3672 is based on the following standardized pattern:

Designation (standardS.itteh.ai)						
Description block	Identity block					
	Individual-item block					
	ISO Standard	Data block 1	Data block 2	Data block 3	Data block 4	Data block 5

The designation consists of an optional description block, reading “R” (resin), 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 comprising the following information:

**Data block 1: Marking block**

**Item 1:** Identification of the basic polymer by its symbol, in accordance with ISO 1043-1;

**Item 2:** Nature of the designatory reinforcement materials or fillers, in accordance with ISO 1043-2;

**Item 3:** Form of the designatory reinforcement materials or fillers, in accordance with ISO 1043-2;

**Item 4:** Nominal content of the designatory reinforcement materials or fillers, in accordance with Table 1.

**Data block 2: Method of processing**

Method of processing for which the unsaturated-polyester resin is intended, designated in accordance with Table 2.

**Data block 3: Properties**

**Item 1:** Specified properties, in accordance with Table 3;



**Item 2:** Designatory property No. 1 — viscosity at 23 °C determined in accordance with ISO 3219;

**Item 3:** Designatory property No. 2 — gel time at ambient temperature determined in accordance with ISO 2535 or reactivity at 130 °C determined in accordance with ISO 14848.

#### **Data block 4 and data block 5 (optional): Additional requirements**

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 an “X” (not applicable), but only if another block follows.

For labelling purposes, and provided no other blocks follow, the comma between blocks 1 and 2 can be omitted.

There is no need to fill in data blocks if they are not required.

### **4.2 Data block 1**

**Item 1:** After the hyphen, unsaturated-polyester resins shall be identified by the symbol UP, in accordance with ISO 1043-1.

Mixtures and modifications shall be designated in accordance with ISO 1043-1:1997, subclauses 4 and 5.

The following information shall be restricted to designatory fillers/reinforcements used in the unsaturated-polyester resin in question:

**Item 2:** Nature of filler/reinforcement, in accordance with Table 1;

**Item 3:** Form of filler/reinforcement, in accordance with Table 1;

**Item 4:** Nominal content (mass %) of filler/reinforcement, in accordance with Table 1.

Note, in particular, the following:

- the same code-letters have different meanings when used for item 2 and item 3;
- whenever information needs to be indicated only for item 3, an “X” (not applicable) is required for item 2.