

# INTERNATIONAL STANDARD

**ISO  
2028**

Third edition  
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## Rubber — Synthetic latices — Preparation of dry polymer

*Caoutchouc — Latex synthétiques — Préparation de polymère sec*  
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ISO 2028:1989

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Reference number  
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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 2028 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*.

This third edition cancels and replaces the second edition (ISO 2028:1982), of which it constitutes a minor revision.

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# Rubber — Synthetic latices — Preparation of dry polymer

## 1 Scope

This International Standard specifies a method for the preparation, for subsequent testing (for example, for the determination of the Mooney viscosity), of dry polymer from anionic stabilized synthetic rubber latices having a volatile unsaturates content of less than 0,5 % (*m/m*).

The method is suitable for a variety of latices, but its applicability should be confirmed for individual types.

It should be noted that the dry polymer contains residual organic acids or soaps which may affect the properties of the polymer. This should be taken into account in the case of analytical tests.

## 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 124:1985, *Rubber latices — Determination of total solids content*.

## 3 Principle

Coagulation of the latex by the addition of sodium chloride and sulfuric acid solutions, with fast agitation, in the presence of an antioxidant. Filtration and drying of the resultant crumb.

## 4 Reagents

During the analysis, use only reagents of recognized analytical grade and only distilled water or water of equivalent purity.

4.1 Sodium chloride, 20 % (*m/m*) solution.

4.2 Antioxidant solution.

Prepare a 0,75 % (*m/m*) ethanolic solution of a bis- or polyphenol antioxidant which will prevent oxidation of the polymer during its preparation.

4.3 Sulfuric acid, diluted 1 + 9.

Add 1 volume of concentrated sulfuric acid ( $\rho = 1,84 \text{ Mg/m}^3$ ) to 9 volumes of water.

4.4 Congo red indicator paper.

## 5 Apparatus and material

5.1 Combined high-speed mechanical stirrer and comminutor, with a totally enclosed motor, and with a stirrer vessel of capacity at least 1000 cm<sup>3</sup>.

5.2 Drying tray, preferably of stainless steel wire gauze.

5.3 Forced-draught oven, capable of being maintained at a temperature between 100 °C and 125 °C.

5.4 Cheesecloth.

## 6 Procedure

If the total solids content is not known, determine it in accordance with ISO 124.

If the total solids content of the latex is greater than 30 % (*m/m*), dilute the latex with water to a total solids content of 30 % (*m/m*).

To 250 cm<sup>3</sup> of the latex contained in the stirrer vessel (see 5.1), add 50 cm<sup>3</sup> of the sodium chloride solution (4.1) and mix thoroughly. With continuous stirring, add 250 cm<sup>3</sup> of the antioxidant solution (4.2) and slowly add, during 2 min to 3 min, 10 cm<sup>3</sup>

of the dilute sulfuric acid (4.3). Test with the indicator paper (4.4), and, if its colour does not change from red to blue, add additional dilute sulfuric acid, with stirring, until the colour does change.

Pour the contents of the stirrer vessel on to the cheesecloth (5.4) and press as much liquid as possible from the crumb. Separate the mass of crumb by hand, wash it with a large volume of water until

the washings are neutral to indicator paper (4.4), then transfer the pieces to the drying tray (5.2).

Dry the crumb in the oven (5.3), maintained at between 100 °C and 125 °C, until the change in mass between two successive weighings at an interval of 2 min is less than 0,25 %. The drying time depends upon the consistency of the crumb, the properties of the polymer and the oven conditions, and shall be determined by experiment.

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