TC 45

INTERNATIONAL STANDARD

ISO 124

Third edition
1992-03-01

Rubber latices — Determination of total solids content

Latex de caoutchouc — Détermination des matières solides totales

Reference number
ISO 124:1992(E)

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 124 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Sub-Committee SC 3, *Raw materials (including latex) for use in the rubber industry*.

This third edition cancels and replaces the second edition (ISO 124:1985), of which it constitutes a technical revision, the method by heating under reduced pressure having been omitted as it is not considered to be satisfactory.

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Rubber latices — Determination of total solids content

1 Scope

This International Standard specifies a method for the determination of the total solids content of natural rubber latex concentrate and synthetic rubber latices.

The method is not necessarily suitable for latices from natural sources other than *Hevea brasiliensis* or for compounded latex, vulcanized latex or artificial dispersions of rubber.

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 123:1985, *Rubber latex — Sampling*.

3 Principle

A test portion is heated to constant mass in an oven under specified conditions, at atmospheric pressure. The total solids content is determined by weighing before and after heating.

4 Apparatus

Ordinary laboratory apparatus and

4.1 Flat-bottomed dishes, lipless, of diameter approximately 60 mm, provided with covers.

4.2 Oven, capable of being maintained at 70 °C ± 2 °C or 105 °C ± 5 °C.

5 Sampling

Carry out sampling in accordance with one of the methods specified in ISO 123.

6 Procedure

Weigh, to the nearest 1 mg, a dish (4.1), together with its cover. Pour into the dish 2,0 g ± 0,5 g of latex, replace the cover and weigh to the nearest 1 mg. Gently swirl the contents of the dish to ensure that the latex covers the bottom. If desired, approximately 1 cm^3 of distilled water or water of equivalent purity may be added and mixed well with the latex by swirling.

Place the dish, uncovered, in the oven (4.2) so that it is horizontal and heat it at 70 °C ± 2 °C or 105 °C ± 5 °C until the sample has lost its whiteness, or for 16 h or 2 h respectively. Allow to cool to ambient temperature in a dessicator, replace the cover and weigh. Return the dish, uncovered, to the oven for 30 min if the drying temperature is 70 °C ± 2 °C, or for 15 min if the drying temperature is 105 °C ± 5 °C. Allow to cool to ambient temperature in the desiccator, replace the cover and reweigh. Repeat the drying procedure at intervals of 30 min or 15 min, as appropriate, until the loss in mass between two successive weighings is less than 1 mg.

If, after heating at 105 °C ± 5 °C, the sheet becomes excessively sticky and it is suspected that significant oxidation has occurred, repeat the determination at 70 °C ± 2 °C.

NOTE 1 Drying by heating under reduced pressure is considered to be an unsatisfactory method.

7 Expression of results

Calculate the total solids content (TSC), expressed as a percentage by mass, using the formula

$$\frac{m_1}{m_0} \times 100$$

where

m_0 is the mass, in grams, of the test portion;

m_1 is the mass, in grams, of the dried material.

The results of duplicate determinations shall not differ by more than 0,2 % (m/m).

8 Test report

The test report shall include the following particulars:

a) a reference to this International Standard;

b) all details necessary for identification of the test sample;

c) the results, and the units in which they have been expressed;

d) any unusual features noted during the determination;

e) any operation not included in this International Standard or in the International Standard to which reference is made, as well as any operation regarded as optional.