

INTERNATIONAL STANDARD

ISO
585

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Plastics — Unplasticized cellulose acetate — Determination of moisture content

Plastiques — Acétate de cellulose non plastifié — Détermination de l'humidité



Reference number
ISO 585 : 1990 (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 585 was prepared by Technical Committee ISO/TC 61, *Plastics*.

This second edition cancels and replaces the first edition (ISO 585 : 1982), of which it constitutes a minor revision.

Plastics — Unplasticized cellulose acetate — Determination of moisture content

WARNING — The use of this International Standard may involve hazardous materials, operations and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard specifies a method for the determination of the moisture content of non-plasticized cellulose acetate.

This determination may be required for the calculation of the dry mass of the cellulose acetate used in analytical methods.

This method applies only to cellulose acetate with a moisture content of not more than 10 %.

2 Principle

A test portion is dried at 105 °C in a thermostatic oven, then weighed. The moisture content is calculated from the loss of mass of the test portion.

3 Apparatus

3.1 Glass weighing bottle, low wide form, with a ground-glass lid.

3.2 Desiccator, containing anhydrous calcium chloride.

3.3 Oven, capable of being maintained at 105 °C ± 2 °C.

3.4 Balance, accurate to 1 mg.

4 Procedure

4.1 Dry the weighing bottle and its ground-glass lid (3.1) in the oven (3.3), maintained at 105 °C ± 2 °C, for 1/2 h, cool in the desiccator (3.2) and weigh to the nearest 1 mg.

Weigh approximately 5 g of cellulose acetate, to the nearest 1 mg, into the weighing bottle.

Introduce the weighing bottle containing the test portion, with its lid removed and placed alongside it, into the oven, maintained at 105 °C ± 2 °C and leave it in the oven for 3 h.

Remove the weighing bottle from the oven, cover with its lid, cool in the desiccator and then re-weigh to the nearest 1 mg.

4.2 Carry out two determinations. If the difference in percentage moisture content between the two is more than 0,1, repeat the test.

5 Expression of results

The moisture content, expressed as a percentage by mass, is given by the formula

$$\frac{m_1 - m_2}{m_1} \times 100$$

where

m_1 is the mass, in grams, of the test portion before drying;

m_2 is the mass, in grams, of the test portion after drying.

Take as the result the mean of two acceptable determinations (see 4.2).

6 Precision

The precision of this test method is not known because inter-laboratory data are not available. This method may not be suitable for use in specifications or in case of disputed results as long as these data are not available.

7 Test report

The test report shall include the following particulars:

- a reference to this International Standard;
- all details necessary for the complete identification of the product tested, including physical form;
- the percentage moisture content.