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Plastics — Aminoplastic moulding materials — Determination of volatile matter

Plastiques — Matières à mouler aminoplastes — Détermination des matières volatiles

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Foreword

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This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 12, *Thermosetting materials,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 3671:1976), which has been technically revised.

The main changes are as follows:

— added the mandatory Clauses 2 and 3 (Normative references and Terms and definitions, respectively) and renumbered the subsequent clauses;

— added procedure to record the weight of the empty weighing bottle under Clause 6 (former Clause 4);

— Changed the formula in Clause 7 (former Clause 5).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Plastics — Aminoplastic moulding materials — Determination of volatile matter

1 Scope

This document specifies a method for the determination of volatile matter (predominantly water) in aminoplastic moulding materials, by drying in an oven.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Apparatus

4.1 Two wide-mouthed weighing bottles, of internal diameter 45 mm and depth 35 mm, provided with tight-fitting covers.

4.2 Well-ventilated oven, capable of being controlled at (55 ± 1) °C.

4.3 Balance, with an accuracy of 0,001 g.

5 Storage of sample

Store the sample in an airtight container prior to testing, to prevent the loss or gain of water or other volatile matter.

6 Procedure

6.1 Record the weight, to the nearest 0,001 g, of a clean dried empty weighing bottle (4.1).

6.2 Weigh (5 ± 0,1) g of the sample to the nearest 0,001 g into the weighing bottle and spread evenly over the bottom of the bottle. Conduct the test in duplicate.

6.3 Place the bottles, with covers removed, in the oven (4.2), controlled at (55 ± 1) °C. After a period of 3 h, close the weighing bottles, remove from the oven and place in a desiccator at room temperature. After a period of at least 1 h, ease the covers of the weighing bottles to equalize pressure, and reweigh the bottles.

7 Expression of results

The volatile matter, w_{VM}, is given, as a percentage by mass, by Formula (1).

$$w_{VM} = \frac{m_1 - m_2}{m_1 - m_0} \times 100 \quad (1)$$

where

m_0 is the mass of empty weighing bottle;

m_1 is the mass of sample and weighing bottle before heating;

m_2 is the mass of sample and weighing bottle after heating.

Calculate the arithmetic mean of the two determinations.

8 Test report

The test report shall include at least the following information:

a) a reference to this document, i.e. ISO 3671:2023;

b) complete identification of the product tested;

c) the volatile matter content as the arithmetic mean of the two determinations;

d) the individual results of the two determinations;

e) any deviations from the procedure;

f) any unusual features observed;

g) the date of the test.