
**Plastics — Polymer dispersions —
Determination of non-volatile matter
(residue) at specified temperatures**

Plastiques — Dispersions de polymères — Détermination de la matière non volatile (résidu) à des températures spécifiées



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 1625 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*, with inputs from ISO/TC 35, *Paints and varnishes*, and ISO/TC 45, *Rubber and rubber products*.

This second edition cancels and replaces the first edition (ISO 1625:1977), which has been technically revised.

In contrast to the previous edition, this new edition is based on the fact that the mass of the so-called “residue” or “dry solids” is not an absolute value, but depends on the conditions used for the determination. To allow the conditions to be adapted to the sample material, four different combinations of temperature and heating time are specified, and the most appropriate combination is selected from these four by agreement between the interested parties.

It is planned to harmonize this standard, if possible, at a future date with ISO 3251:1993, *Paints and varnishes — Determination of non-volatile matter of paints, varnishes and binders for paints and varnishes*, and EN 827:1994, *Adhesives — Determination of conventional solids content and constant mass solids content*.

Annex A forms an integral part of this International Standard.

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Plastics — Polymer dispersions — Determination of non-volatile matter (residue) at specified temperatures

WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

1 Scope

This International Standard specifies a method for the determination of the non-volatile matter content of polymer dispersions.

The method is applicable to all polymer dispersions whose residue is chemically stable under the test conditions.

The method is also applicable to formulated polymer dispersions containing fillers, pigments and other auxiliaries.

NOTES

1 This method is suitable for synthetic rubber latices provided heating for a specific period of time is considered appropriate (ISO 124 specifies heating until the loss in mass of a 2 g test portion following successive periods of heating is less than 0,5 mg).

2 The residue from unplasticized polymer dispersions and rubber latices consists essentially of the polymeric material and of small quantities of auxiliaries such as emulsifiers, protective colloids, stabilizers, solvents added as film-forming agents and — especially for rubber latex concentrate — preserving agents. For plasticized samples, the residue by definition normally includes the plasticizer.

3 In-house methods for the determination of non-volatile matter often include drying with infrared or microwave radiation. Standardization of such methods is not possible, since they are not generally applicable. Several polymer compositions tend to decompose during such treatment and therefore give incorrect results.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were 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 editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 123:1985, *Rubber latex — Sampling*.

ISO 124:1997, *Latex, rubber — Determination of total solids content*.

ISO 842:1984, *Raw materials for paints and varnishes — Sampling*.