



GB/T 1725-2007

Paints, varnishes and plastics - Determination
of non-volatile- matter content

色漆、清漆和塑料 不挥发物含量的测定

Authorities: AQSIQ, SAC

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National Standard of the People's Republic of China

GB/T 1725-2007/ISO 3251-1: 2003

Supersedes GB/T 1725-1979(1989); GB/T 6740-1986; GB/T 6751-1986

Paints, varnishes and plastics – Determination of non-volatile matter content (ISO 3251: 2003, IDT)

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Foreword

This Standard is identical with International Standard ISO 3251: 2003 “Paints, varnishes and plastics - Determination of non-volatile- matter content” (English edition).

This Standard supersedes GB/T 1725-1979(1989) *Methods of test for non-volatile matter of varnishes, paints and their vehicles*, GB/T 6740-1986 *Paint media - Determination of volatile and non-volatile matter*, and GB/T 6751-1986 *Paints and varnishes - Determination of volatile and non-volatile matter*.

The main technical differences between this Standard and GB/T 1725-1979(1989), GB/T 6740-1986, GB/T 6751-1986 are:

- This Standard combines the contents of the three standards and expands its scope of application, such as polymer dispersions, condensation resins, etc.
- This Standard specifies the test method of some special samples and the test parameters for various types of samples.
- This Standard specifies the error range of the test results.

This standard was proposed by the China Petroleum and Chemical Industry Association.

This standard is under the jurisdiction of the National Technical Committee on Paints and Pigments of Standardization Administration of China.

Drafting organizations of this standard: CNOOC Changzhou Paint & Coating Industry Research Institute.

The main drafters of this standard: Zhou Xiangling and Huang Ning.

GB/T 1725 was first released in 1979 and confirmed in 1989; GB/T 6740 was first released in 1986; GB/T 6751 was first released in 1986. The three standards are all revised for the first time.

The interpretation of this Standard is under the responsibility of the National Technical Committee on Paints and Pigments of Standardization Administration of China.

Paints, varnishes and plastics – Determination of non-volatile matter content

1. Scope

This standard specifies the method for the determination of non-volatile matter content of paints, varnishes, binders for paints and varnishes, polymer dispersions and condensation resins, such as phenolic resin (resols, novolak solutions, etc.).

This method is also applicable to dispersions containing pigments, fillers and other auxiliaries (such as thickeners and film-forming agents). This standard can also be used for unplasticized polymer dispersions and rubber latices, the non-volatile residue (mainly polymeric material and a small amount of auxiliaries such as emulsifiers, protective colloids, stabilizers, film-forming agents added as solvents, in particular preservatives for the concentrated rubber latex) under the test conditions should be chemically stable. For plasticized samples, non-volatile residue typically includes plasticizers.

NOTE 1 The non-volatile-matter content of a sample is not an absolute quantity but depends upon the temperature and period of heating used for the determination. Consequently, when using this method, only relative and not true values of the non-volatile-matter content are obtained owing to solvent retention, thermal decomposition and evaporation of low-molecular-mass constituents. The method is therefore primarily intended for testing different batches of the same type of sample.

NOTE 2 This method is suitable for synthetic rubber latices provided heating for a specific period is considered appropriate (ISO 124 specifies heating until the loss in mass of a 2 g test sample following successive periods of heating is less than 0.5 mg).

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

ISO 3233:1998, *Paints and varnishes — Determination of percentage volume of non-volatile matter by measuring the density of a dried coating*, specifies a method for determining the volume of non-volatile matter in paints, varnishes and related samples.

2. Normative References

The following normative documents contain provisions, which, through reference in this Standard, constitute provisions of this standard. For dated references, subsequent amendments (excluding corrections), or revisions, of any of these publications do not apply to this Standard. However, parties who enter into agreements based on this Standard are encouraged to investigate whether the latest editions of these documents are applicable. For undated references, the latest edition applies to this Standard.

GB/T 3186-2006 *Paints, varnishes and raw materials for paints and varnishes – Sampling* (ISO 15528: 2000, IDT)

GB/T 6753.4-1998 *Paints and varnishes – Determination of flow time by use of flow cups* (eqv IOS 2431: 1993)

GB/T 8298-2001 *Latex, rubber – Determination of total solids content* (eqv IOS 124: 1997)

GB/T 20777-2006 *Paints and varnishes - Examination and preparation of samples for testing* (ISO 1513: 1992, IDT)

IOS 123: 2001 *Rubber latex — Sampling*



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