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**GB**

NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA

ICS 87.040

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

Replacing GB/T 1725-1979 (1989), GB/T 6740-1986, GB/T 6751-1986

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**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  
(ISO 3251:2003, IDT)

**Issued on: September 11, 2007**

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## Foreword

This Standard equivalently adopted ISO 3251:2003 *Paints, Varnishes and Plastics – Determination of Non-Volatile-Matter Content* (English Version).

This Standard replaced 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*.

Compared with GB/T 1725-1979 (1989), GB/T 6740-1986 and GB/T 6751-1986, the major technical differences of this Standard are as follows:

- This Standard combines the contents of the three standards; and adds the polymer dispersions and polycondensation resins to its scope of application.
- This Standard specifies the test procedures for some special samples and specifies the test parameters for various types of samples.
- This Standard specifies the error range of the test results.

This Standard was proposed by China Petrol and Chemical Industry Association.

This Standard shall be under the jurisdiction of National Technical Committee on Paints & Pigments of Standardization Administration of China.

Drafting organization of this Standard: CNOOC Changzhou Paint and Coatings Industry Research Institute.

Chief drafting staffs of this Standard: Zhou Xiangling, and Huang Ning.

GB/T 1725 was first-time published in 1979, and confirmed in 1989; GB/T 6740 was first-time published in 1986; and GB/T 6751 was first-time published in 1986. The above three standards are first-time revised.

This Standard was entrusted to National Technical Committee on Paints & Pigments of Standardization Administration of China for interpretation.

# Paints, Varnishes and Plastics - Determination of Non-Volatile-Matter Content

## 1 Scope

This Standard specifies a method for determining the non-volatile-matter content by mass of paints, varnishes, binders for paints and varnishes, polymer dispersions and condensation resins such as phenolic resins (resols, novolak solutions, etc.).

This Standard is also applicable to formulated dispersions containing fillers, pigments and other auxiliaries (e.g., thickeners and film-forming agents). For the method to be usable for unplasticized polymer dispersions and rubber latices, the non-volatile residue (which 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) has to be chemically stable under the test conditions. For plasticized samples, the non-volatile residues normally include the plasticizer.

NOTE 1: The non-volatile-matter content of a product 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 product.

NOTE 2: 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).

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 products.

## 2 Normative References

The provisions in following documents become the provisions of this Standard through

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