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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 15223-2008

Replacing GB/T 15223-1994; GB/T 12007.5-1989

**Plastics -- Liquid resins -- Determination of density by the
pycnometer method**

塑料 液体树脂 用比重瓶法测定密度

(English Translation)

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Foreword

This standard is identical with ISO 1675. 1985 "Plastics --- liquid resin density was measured using a pycnometer Law" (in English).

For ease of use, this standard made the following editorial changes.

- a) to the "international standards" be replaced by the "Standard" or "GB/T 15223";
- b) Delete the ISO 1675. 1985 Foreword;
- c) increasing the preface of this standard;
- d) use of decimal notation. "" instead of the international standard decimal symbol "." this standard replaces GB/T 15223-1994 "liquid resin density measuring method Pycnometer" and GB/T 12007.5-1989 "Epoxy Density Determination pycnometer method", the GB/T 12007.5-1989 content included in this standard.

This standard compared with GB/T 15223-1994, the main technical content changes as follows.

- a) Change the standard name;
- b) increase the definition, directory, foreword;
- c) Remove the instrument in an oven;
- d) Remove the allowable difference;
- e) expanding the GB/T 12007.5-1989 the scope.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Standardization Technical Committee plastic universal methods and products Club (SAC/TC15/SC4) centralized.

1 Scope

This standard specifies the use of a pycnometer liquid resin density measurement method.

This standard applies to the determination of low viscosity and medium viscosity liquid resin density, high viscosity resins may also be used, but there is in operation difficult.

2 Terms and definitions

The following terms and definitions apply to this standard.

Mass divided by the volume in grams per milliliter (g/mL).

Principle 3

Mass measuring device in a known volume of the pycnometer resin at 23 °C when.

4 Instrument

4.1

pycnometer. For a precise scale of the flask. Tick \u200b\u200babove the neck height of not more than 50mm.

Pycnometer at 23 °C $\pm$ 0.1 °C Calibration registration to 1/10000 volume should be measured. It is through this temperature distilled water in the pycnometer Quality is measured (see Chapter 6 of the note).

Pycnometer commonly used has characteristics shown in Table 1.

Table 1 Characteristics of pycnometer

100 $\pm$ 0.1

50 $\pm$ 0.05

13 $\pm$ 1

11 $\pm$ 1

4.2

Funnel. Funnel its inner diameter should be as large as possible, into the funnel tube should just pycnometer mark.

4.3

Balance. dividing the value of 0.2mg.

4.4

water bath. to maintain at 23 °C $\pm$ 0.1 °C.

4.5

fine filter paper.

4.6

transparent conical flask. wide mouth (for example Erlenmeyer s), with a stopper, the volume of 200mL ~ 600mL.

5 Steps

Prepare resin 5.1

At least 150g of the resin into the conical flask (4.6), check the conical flask resin without bubbles. If you observe the bubble, with the plug Erlenmeyer flask place long enough to make all the bubbles disappear. After placing or placed at the same time it is immersed in a water bath (4.4) in order to Erlenmeyer flask and make them pitch control in $23\text{ }^{\circ}\text{C} \pm 0.1\text{ }^{\circ}\text{C}$.

NOTE: In order to accelerate the discharge of bubbles, especially close to the sidewall of the bubble, the application of a thin wire through the narrow neck flasks agitated or poke them.

GB/T 15223-2008/ISO 1675. 1985