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

GB/T 14634.5-2010

Replacing GB/T 14634.5-2002

**Test methods of rare earth three-band phosphors for
fluorescent lamps - Part 5: Determination of density**

灯用稀土三基色荧光粉试验方法 第5部分：密度的测定

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Foreword

GB/T 14634 "light rare earth trichromatic phosphors Test Method" is divided into seven sections.

- Part 1. Determination of relative brightness;
- Part 2. Determination of emission peak and color performance;
- Part 3. Determination of thermal stability;
- Part 4. Electric sensing particle size distribution measurement;
- Part 5. Determination of density;
- Part 6. Determination of specific surface area;
- Part 7. Determination of thermal quenching. This is Part 5. This section is GB/T 14634.5-2002 "light rare earth trichromatic phosphors Test Method for Density Determination" amendment right. This section compared with the GB/T 14634.5-2002, the main changes are as follows:

- Adjust some analysis condition;
- Increasing the precision of the terms, adjusted the allowable difference;
- Standard text made editorial changes. Appendix A of this section is an informative annex. This part of the National Standardization Technical Committee rare and centralized. This section is responsible for drafting units. Jiangmen Branch Hang Industrial Co., Ltd.. Participated in the drafting of this section. Xiamen Topstar New Materials Co., Ltd., Shanghai Yuelong New Material Co. Ltd., Hangzhou Daming fluorescent material Ltd., Shaanxi Rainbow Fluorescent Materials, Institute of Rare Earth New Materials Co., Ltd. The main drafters of this section. Luger mountain, Huang Rui sweet. The drafters of some of the participants. Daisy Ling, Yu Shu-chun, Jin Jie, He Haiyan, Wu Wang Bao, He Tao. This part of the standard replaces the previous editions are.
- GB/T 14634.5-2002. Test methods of rare earth trichromatic phosphor lamps Determination of density. Part 5

1 Scope

GB/T 14634.5-2010 is the Chinese national standard on test methods of rare earth three-band phosphors for fluorescent lamps - part 5: determination of density, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 9 August 2010 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 May 2011. Classification: ICS 77.120.99, CCS H14. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

GB/T 14634 provisions of this part of the lamp determination trichromatic phosphor density. This section applies to the determination of rare earth trichromatic lamp phosphor density.

2 Principle of the method

At the same temperature, were measured by the proportion of known mass filled flask and no time without the addition of light rare earth trichromatic phosphors sample Water quality ethanol, anhydrous ethanol to determine the quality and volume of the pycnometer volume of the sample, the sample can be calculated based on the quality and volume Its density.

3 Instruments and apparatus

3.1 Balance. accuracy 0.0001g.

3.2 Thermometer. dividing the value should be less than 0.5 °C.

3.3 pycnometer. 25mL capacity and is equipped with a plug (see Figure 1).

3.4 vacuum. a vacuum of 0.9kPa.

3.5 water bath ultrasonic cleaner. Power 40W ~ 100W. Figure

1 Pycnometer Preparation of 4 samples The sample at (105 ± 2) °C drying 2h, then cooled to room temperature in a desiccator.

5 measuring step

5.1 Quality said take pycnometer, and an appropriate amount of the dried sample was loaded washed dry pycnometer (take about 8g ~ 10g), with Weighing scales, accurate to 0.001g.

5.2 to 2/3 volume of the pycnometer injecting absolute ethanol and then placed in power is

40W ~ 100W water bath ultrasonic cleaner for clearing Wash process 5min.

5.3 specific gravity bottle placed in a vacuum apparatus gradually reduced pressure, vacuum up to 0.9kPa, sustained 10min, to eliminate air bubbles. Placed under pressure 5min after injection of anhydrous ethanol to the full, stoppered, then a small amount of ethanol spill, the outer surface of the filter paper to dry pycnometer, in the days Flat on the weighing.

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