

ICS 91.100.10

CCS Q 11



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

GB/T 208-2014

Replacing GB/T 208-1994

Test method for determining cement density

水泥密度测定方法

Issued on: June 9, 2014

Implemented on: December 1, 2014

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 4 Principle of the method
- 5 Apparatus and materials

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 208-1994 "cement density determination." This standard compared with GB/T 208-1994 main changes are as follows:

--- Liquid medium added "other liquid does not react with the cement reaction" (1994 edition, Chapter 4, Chapter 4 edition);

--- Increased requirements for heated water tank, "thermostatic water bath should be large enough volume so that the water temperature can be stably controlled at $20\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ " (1994 Version 5.3, this version of Article 5.3);

--- Bubble discharge mode adds, "You can use a magnetic stirrer discharge bubble" (1994 version 6.4, this version 6.4). The standard proposed by China Building Materials Federation. This standard by the National Standardization Committee cement (SAC/TC184) centralized. This standard is drafted by: China Building Materials Academy, Urban Construction Zhejiang Construction Group Co., Ltd., Xiamen Yi Siou standard Sand Co., Ltd., Beijing's new Austrian concrete Group Limited. Participated in the drafting of this standard. Xinjiang Tianshan Cement Co., Ltd., Shandong jungle Group Co., Ltd., Jiaying day extension supplies Limited, Mudanjiang Northern Cement Co., Ltd., Qufu United Cement Co., Ltd. Zhuzhou Hongxin special building materials, Liaoning Tianbao good Building Materials Co., Ltd., Guizhou Shui River Cement Development Co., Ltd., Shandong Province Cement Quality Supervision, Inspection Station, Guizhou Building Materials Quality Supervision, Inspection Mortem hospital. The main drafters of this standard. Song Lichun, Jiangli Zhen, Liu Chen, Ma Siu mold, Li days, Huang Qinglin, Chen Ping, Wang Yu-line, An Xueli, Sheng Yong, Li Changjiang, Liu Long, Wang Xiaoping, Xiean Qin, Fang Xu, Deng Hui people, is still one hundred rain, HE Jiang Fang. This standard replaces the standards previously issued as follows:

--- GB 208-1963, GB/T 208-1994. Cement density determination

1 Scope

China's national method for determining the density of cement - the figure that every concrete mix design starts from, since a mix is proportioned by volume in the batching plant and by mass on the ticket, and the number that converts one into the other is this one. The standard specifies the principle, the apparatus and materials, the measurement procedure and the calculation of the results for the determination of cement density. It applies to the determination of the density of cement, and the same method may be used for other powdered materials whose density is to be determined. The method is the classical liquid displacement determination in a Le Chatelier flask: a weighed quantity of cement is introduced into a flask filled to a graduated neck with a liquid in which the cement does not react, the displaced volume is read directly from the graduations, and the density follows from the mass and the volume. The liquid is kerosene meeting GB 253, chosen because it wets the cement without hydrating it, which is the whole difficulty of the determination - water would set the sample and give a meaningless result. The procedure therefore turns on the conditions that make the reading reproducible: the drying of the cement, the temperature at which the flask and the liquid are held and the tolerance on it, the removal of the entrained air from the powder, and the way the meniscus is read. Issued on 9 June 2014 and in force since 1 December 2014, it replaces GB/T 208-1994.

This standard specifies the method for determining the density of the principle of cement, machinery and materials, measurement step and results calculation. This standard applies to the determination of the density of the cement, but also to specify other measuring density of powder material using this method.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document. GB 253 Kerosene

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Cement density cementdensity Cement mass per unit volume.

4 Principle of the method

Bottle, the volume of liquid will be Lee certain quality of cement was poured into a liquid medium containing a sufficient amount should be able to fully wet cement particles. According to Archimedes' principle, the volume of cement particles is equal to the volume of fluid it displaces, to calculate a quality of cement per unit volume is dense degree. Test,

the liquid medium using anhydrous kerosene or other liquid does not react with cement.

5 Apparatus and materials

5.1 Lee bottles Lee bottles made from high quality glass, transparent without stripes, with resistance to chemical attack and thermal hysteresis is small, there must be sufficient thickness to ensure good Good crack resistance. Lee bottles circular cross-sectional shape, dimensions shown in Figure 1. Bottleneck scale by the 0mL ~ 1mL and 18mL ~ 24mL two scale composition and 0mL ~ 1mL to 18mL ~ 24mL and 0.1mL of dividing the value of any error no larger than the capacity indicated 0.05mL.