

ICS 81.080

CCS Q 40



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

GB/T 5071-2013

Replacing GB/T 5071-1997

Refractory materials -- Determination of true density

耐火材料 真密度试验方法

(English Translation)

Issued on: September 6, 2013

Implemented on: May 1, 2014

Issued by: Standardization Administration of China

Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 4.1 Principle
- 4.2 Device

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard replaces GB/T 5071-1997 "refractory true density" compared with GB/T 5071-1997, Technical Changes are as follows.

- Increasing the gas comparison pycnometer method, modify using ASTM C604-2007 "refractory true specific gravity test methods for gas ratio Representing hydrometer Law";
- Increasing the proportion of true definitions;
- Revised Appendix A;
- Modify the rounding principle test results.

This standard uses redrafted law revision using ISO 5018. 1983 "Determination of true density refractory." this standard and ISO 5018. 1983, compared with more adjustment in the structure, listed in Appendix B of this standard and ISO 5018. 1983's Reg number control list.

This standard and ISO 5018. 1983 technical differences are as follows.

- On normative references, this standard has been adjusted technical differences, in order to adapt our technical conditions, the adjusted situation Focus is reflected in the status of Chapter 2, "Normative references", the specific adjustments are as follows.
 - Modify with international standards of GB/T 18930 replaced by ISO 5018. 1983 references ISO 836;
 - increase cited GB/T 17617;
 - Remove the ISO 5018. 1983 references ISO 5022;
 - increase cited GB/T 10325;

- Remove the ISO 5018. 1983 references ISO 565;
- increase cited GB/T 6003.1;
- increase cited GB/T 8170.

--- Increased gas comparative hydrometer method.

This standard by the National Standardization Technical Committee Refractories (SAC/TC193) and focal points.

This standard was drafted. Wuhan University of Science and Technology, Luoyang Institute of Refractories Steel Group Co., Limited Guangxi Refractories Qingrong the company.

1 Scope

This standard specifies the terms and definitions of true density refractory materials, principles, equipment, samples, test procedures, and test results of the calculation Inspection reports.

This standard applies to the determination of refractory products, refractory materials and monolithic refractories true density.

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/T 6003.1 Test sieves - Technical requirements and testing - Part 1. Test sieves of metal wire cloth GB/T 8170 repair value expressed about the rules and limit values
GB/T 10325, shaped refractory products acceptance sampling inspection rules GB/T 17617 refractory raw materials and monolithic refractories sampling GB/T 18930 refractory term (GB/T 18930-2002, ISO 836:2001, MOD)

3 Terms and Definitions

GB/T 18930 and as defined in the following terms and definitions apply to this document.

True specific gravity Density true density divided by 4 °C water.

4 1 --- Pyknometer

4.1 Principle

4.1.1

The sample was crushed, ground, making it possible to reduce the closed-cell, measure the dry mass and volume really so true density measured.

Fines and known volume using a pycnometer liquid density measurement, the liquid temperature should be strictly controlled or measured accurately.

4.1.2

unfired refractory products and refractory products can be used for alkaline pretreatment, the pretreatment conditions to be agreed by the parties concerned.

4.2 Device

4.2.1

pycnometer capacity 25mL, 50mL or 100mL, with ground glass stopper with a capillary.

4.2.2

scales, measurement accuracy of 0.1mg.

4.2.3

vacuum, the residue can be evacuated to a pressure of not more than 2.5kPa, and equipped with a pressure indicator.

4.2.4

thermostatically controlled bath, maintained at room temperature for more than 2 °C ~ 5 °C, accuracy $\pm 0.2K$.

4.2.5

Test sieve pore size of 63 μ m, in line with GB/T 6003.1 requirements.

4.2.6

oven.

4.2.7

dryers.