

ICS 29.050

CCS Q50



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

**GB/T 1431-2019**

Replacing GB/T 1431-2009

---

**The test method for compressive strength of carbon materials**

炭素材料耐压强度测定方法

**Issued on: June 4, 2019**

**Implemented on: May 1, 2020**

---

**Issued by: State Administration for Market Regulation;  
Standardization Administration of China**

## Table of Contents

|                                    |   |
|------------------------------------|---|
| 7 Table of Contents Foreword ..... | 3 |
| 1 Scope .....                      | 4 |
| 2 Normative Reference .....        | 4 |
| 3 Principle.....                   | 4 |
| 4 Apparatus .....                  | 4 |
| 5 Specimen .....                   | 5 |
| 6 Test Procedures .....            | 5 |
| 7 Results Calculation.....         | 6 |

### Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009. This Standard replaced GB/T 1431-2009 Carbon Materials - Determination of the Compressive Strength. Compared with GB/T 1431-2009, this Standard has the major technical changes as follows:

- Modify the principle description (see Clause 3 of this Edition; Clause 3 of 2009 Edition);
  - Add the technical requirements of micrometer (see 4.2 of this Edition);
  - Modify the technical requirements of material tester (see 4.4 of this Edition; 4.2 of 2009 Edition);
  - Add the technical requirements for isostatic graphite specimen size and roughness (see 5.2.4, 5.3 of this Edition);
  - Improve the requirements of diameter test (see 6.2, 6.4 of this Edition; 6.2.1, 6.2.3 of 2009 Edition);
  - Add the loading requirements of isostatic graphite sample (see 6.6 of this Edition).
- This Standard was proposed by China Iron and Steel Industry Association. This Standard shall be under the jurisdiction of National Technical Committee

for Standardization of Steel (SAC/TC 183). Drafting organizations of this Standard: Sinosteel Advanced Materials (Zhejiang) Co., Ltd.; Kaifeng Carbon Co., Ltd., China Pingmei Shenma Group; Shanxi Jinyang Carbon Co., Ltd.; Shandong Basan Graphite New Material Factory; Shanghai Research Institute of Materials; Changzhou Xinneng Material Inspection and Testing Co., Ltd.; and China Metallurgical Information and Standardization Institute. Chief drafting staffs of this Standard: Yang Hui, Mao Yuzhen, Xu Jianping, Zheng Jingxu, Chen Wenlai, Wu Jianguo, Duan Xueliang, Zhang Hua, Chen Weixian, Tang Yonggui, Wang Wendong, Wu Jie, Zhang Qi, and Li Yue. The historical editions replaced by this Standard are as follows:

## 2 Normative Reference

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB/T 1427 Sampling Method for Carbon Material

GB/T 8170 Rules of Rounding off for Numerical Values & Expression and Judgement of Limiting Values

## 3 Principle

The compressive strength indicates the pressure limit load that can be withstood by the material per unit area.

4 Apparatus 4.1 Vernier caliper: measuring range of 0mm~200mm; accuracy of 0.02mm.

4.2 Micrometer: measuring range of 0mm~50mm; accuracy of 0.01mm.

--- The End ---