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NATIONAL STANDARD OF THE
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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

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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.

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The historical editions replaced by this Standard are as follows:

- GB/T 1431-1978, GB/T 1431-1985, GB/T 1431-2009.

The Test Method for Compressive Strength of Carbon Materials

1 Scope

This Standard specifies the principle, apparatus, specimen, test procedures, test results and test report for compressive strength of carbon materials.

This Standard is applicable to the determination of the compressive strength of carbon materials under room temperature.

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.

4.3 Blast drying oven: equipped with automatic temperature regulating device; the temperature can be maintained at 105°C~110°C.

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