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

GB/T 13465.1-2024

Replacing GB/T 13465.1-2014

**Test method of impermeable graphite materials - Part 1:
General**

不透性石墨材料试验方法 第1部分：总则

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting is required. This document is part 1 of GB/T 13465 "Test methods for impermeable graphite materials". GB/T 13465 has been published in the following parts. Test methods for impermeable graphite materials Part

1 Scope

GB/T 13465.1-2024 is the Chinese national standard on test method of impermeable graphite materials - part 1: general, in the field of chemical technology. 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 29 September 2024 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 April 2025. Classification: ICS 71.120, CCS G94. 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.

This document specifies the instrumentation, sampling, sample preparation, testing, test results and test reports for performance testing of impermeable graphite materials. This document applies to the tensile strength, flexural strength, compressive strength, impact strength, weight gain rate, pore filling rate, Water pressure blasting, permeability coefficient, thermal expansion coefficient, thermal conductivity, tensile strength and shear strength of bonded joints of impermeable graphite materials, etc. Determination of performance.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies. in this document.

GB/T 2611 General technical requirements for testing machines

GB/T 3159-2008 Hydraulic universal testing machine

GB/T 16491-2022 Electronic universal testing machine

GB/T 21432 Graphite pressure vessels

HG/T 2059 Technical requirements for impermeable graphite tubes

ISO 2602 Statistical interpretation of test results Estimated confidence interval of the mean results-Estimation of the mean-Confidence interval)

3 Terms and definitions

The terms and definitions defined in GB/T 21432 and the following apply to this document.

3.1 Effective experimental data During the mechanical properties test, the specimen breaks at the specified test section and there are no defects such as voids, slag inclusions, delamination and cracks on the fracture surface. Measured test data.

Note. Referred to as "valid data".

4.1 Mechanical properties test equipment

4.1.1 Testing machine The testing machine shall comply with the requirements of GB/T 2611, and its performance shall meet the following requirements. When using a hydraulic universal testing machine, the performance of the testing machine shall comply with the provisions of GB/T 3159-2008, and the measurement error, coaxiality and The relative error

of loading speed shall not be less than the requirement of level 1;

a) When using an electronic universal testing machine, the performance of the testing machine shall comply with the provisions of GB/T 16491-2022, measuring error and coaxiality b)

10 Tensile strength; Test methods for impermeable graphite materials Part

12. Thermal conductivity. - This document replaces GB/T 13465.1-2014 "Test methods for impermeable graphite materials Part

1. General test methods for mechanical properties" Compared with GB/T 13465.1-2014, in addition to structural adjustments and editorial changes, the main technical changes are as follows: The scope of application of the document has been changed (see Chapter 1, Chapter 1 of the.2014 edition);

a) The term and definition of "impermeable graphite" have been deleted (see 3.1 of the.2014 edition);

b) The definition of "valid test data" has been changed (see 3.1, 3.2 of the.2014 edition);

c) The requirements for instruments and equipment have been changed (see Chapter 4, Chapter 5 of the.2014 edition);

d) The requirements for sample preparation have been changed (see Chapter 5, Chapter 4 of the.2014 edition);

e) The requirements for test specimens of adhesive castings have been deleted (see 4.1.3 of the.2014 edition);

f) The requirements for the test process have been changed (see Chapter 6, Chapter 6 of the.2014 edition);

g) Added requirements for the calculation of confidence intervals for the mean of test data (see 7.4);

h) The requirements for test data processing have been changed (see 7.5, 7.6, 7.4, 7.5 of the.2014 edition);