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

GB/T 13465.5-2009

**Test method of contraction of the impermeable graphite
phenolic aldehyde agglomerate**

不透性石墨酚醛粘接剂收缩率试验方法

(English Translation)

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Foreword

This section corresponds to the American Society for Testing Materials Standard ASTM C695:2000 "Standard Test Method for Compressive strength of graphite", and this section ASTM C695:2000 non-equivalent degree of consistency.

This section referring ASTM C695:2000 in specimen geometry and tolerances, this part of the impermeable graphite phenolic adhesive shrinkage test Like shape and tolerances make provisions.

This part is proposed by the China Petroleum and Chemical Industry Association.

This part of the National Non-metallic chemical equipment Standardization Technical Committee centralized.

This section is drafted. Tianhua Chemical Machinery and Automation Research and Design Institute, Shanghai Carbone Lorraine Chemical Equipment Co., Ltd., Nantong Jingtong Graphite Equipment Co., Ltd. Liaoyang Carbon Co., Ltd., Nantong dawn graphite heat exchanger plant, Shenzhen City days for Graphite Products Co., Ltd., Nantong three Xin Carbon Graphite Equipment Co., Ltd.

1 Scope

GB/T 13465 in this section provides a sample, test equipment, test drive when it detects impervious graphite phenolic binder used shrinkage Ordering and result calculation.

This section applies to the determination of impervious graphite phenolic adhesive shrinkage.

2 Normative references

The following documents contain provisions which, through reference GB/T 13465 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 13465.1 mechanical properties of impermeable graphite General Test Methods

3 Terms and Definitions

GB/T 13465.1 and established the following terms and definitions apply to this section.

Than as a percentage of the length or volume before and after the impervious graphite phenolic adhesive material at elevated temperatures after cooling, the material at elevated temperatures.

4 Instruments and equipment

Instruments and equipment in line with GB/T 13465.1 of the relevant provisions, shall meet the following requirements.

- a) electric oven. 0 °C ~ 150 °C, accuracy ± 2 °C;
- b) Micrometer. 0mm ~ 25mm, 100mm ~ 125mm, dividing the value of 0.01mm.

5 Sample

5.1

Sampling and sample preparation according to GB/T 13465.1 of the relevant provisions.

5.2

adhesive cast into specimens, 48h cured at a temperature of 28 °C ~ 32 °C, impervious graphite phenolic adhesive after processing Agent shrinkage Sample size is 120mm x 15mm x 10mm.

5.3

specimen surface should be smooth, height and width of the two opposite faces of the sample deviation is less than 0.03mm, roughness R Rao $\leq 1.6\mu\text{m}$, dew Days construction sample preparation facilities should be set up weatherproof.

5.4

specimen surface should be free of cracks, delamination and other defects affecting the measurement precision.

5.5

each sample at least five.

6 Test procedure

6.1

The sample with the steel stylus engraved number.

6.2

Determination of the sample at room temperature for a long, wide, high, accurate to 0.01mm, respectively, from three different measuring positions, the arithmetic mean.

6.3

The sample was placed flat electric oven, heat-curing process, less than 85 °C, heating rate of 10 °C/h; 85 °C ~ 130 °C , The rate of temperature rise of 15 °C/h. After 130 °C thermostatic 5h, in an electric oven to cool to room temperature.