

ICS 81.080

CCS Q 40



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

GB/T 7320-2018

Replacing GB/T 7320-2008

Refractories -- Determination of thermal expansion

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Foreword

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

This standard replaces GB/T 7320-2008 "Test method for thermal expansion of refractories", compared with GB/T 7320-2008, the main technology

The changes are as follows.

- Increase the definition and calculation method of the linear expansion coefficient of any temperature T_i ;
- Modified the definition and calculation formula of the average linear expansion coefficient;
- Modified the heating rate of the differential method expansion;
- Modified the specified load of the differential method expansion;
- Increase the range of sample size of the ejector method;
- Increase the rule of the load applied in the ejector method is not more than 2.0N;
- Modified the heating rate of the ejector method;
- Modified the calibration method and formula of the ejector method;
- Added Appendix A and Appendix B.

This standard uses the redrafting method to modify the ISO 16835.2014 "Test Method for Thermal Expansion of Refractories".

This standard has more structural adjustments than ISO 16835.2014. This standard and ISO 16835.2014 are listed in Appendix A.

The chapter number is compared to the list.

There are technical differences between this standard and ISO 16835.2014. Appendix B lists the techniques of this standard and ISO 16835.2014.

A list of surgical differences and their causes.

1 Scope

This standard specifies the definition, principle, equipment, sample, test procedure, result calculation, test error and test of thermal expansion measurement of refractory materials. report.

This standard applies to the determination of the linear expansion rate, the average linear expansion coefficient and the instantaneous linear expansion coefficient of refractory materials.

This standard contains the following two thermal expansion test methods.

- a) the differential method;
- b) The ejector method.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 4513.5 Unshaped refractories - Part 5. Sample preparation and pretreatment (GB/T 4513.5-2017, ISO 1927-

5.2012, MOD)

GB/T 5989 Refractory load softening temperature test method differential heating method (GB/T 5989-2008, ISO 1893.

2005, IDT)

GB/T 7321 shaped refractory product sample preparation method

GB/T 8170 Numerical Rounding Rules and Representation and Determination of Limit Values

GB/T 16839.1 Thermocouple Part 1. Index Table

GB/T 16839.2 Thermocouple Part 2. Tolerance

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Initial temperature startingpointtemperature

T0

The starting temperature (usually room temperature) used to record the amount of thermal expansion.

3.2

Lower limit temperature lower limitttemperature

T1

The lowest temperature at which the line expands is measured over a range of temperatures.

3.3

Upper limit temperature highestlimitttemperature

T2

The maximum temperature at which the line expands is measured over a range of temperatures.