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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 17601-2023

Replacing GB/T 17601-2008

Refractory products - Determination of resistance to acid

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1.Structure and Drafting Rules of Standardization Documents"

Drafting.

This document replaces GB/T 17601-2008 "Test method for resistance to sulfuric acid attack of refractory materials". Compared with GB/T 17601-2008,

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) Changed the scope of application, changing refractory products to refractory materials (see Chapter 1, Chapter 1 of the.2008 edition);

b) Added a "Terms and Definitions" chapter (see Chapter 3);

c) Added test sieves and water baths with apertures of 0.50mm and 0.25mm (see 4.2 and 4.8);

d) Added sulfuric acid (mass fraction 10%, 40%), nitric acid (mass fraction 10%), hydrochloric acid (mass fraction 10%) (see 5.2, 5.4,

5.5);

e) Added regulations for sampling unshaped refractory materials and preparation methods for 0.25mm~0.5mm granular materials and flexural specimens (see 6.1,

6.2);

f) Changed the expression of test results and added the calculation method of acid resistance (see 7.3, Chapter 8 of the.2008 edition);

g) Added method 2 (test method for mixed acid corrosion resistance of shaped refractory products) (see Chapter 8);

h) Added method 3 (Test method for sulfuric acid attack resistance of unshaped refractory

materials) (see Chapter 9);

i) Added sample type, grade, batch number, etc., sample molding and pretreatment conditions, and recorded appearance abnormalities (Method 3), which is consistent with this article

Deviations from the parts, any abnormal conditions during the test, and the test personnel (see Chapter 10).

This document has been modified to adopt ISO 8890.1988 "Test Method for Resistance to Sulfuric Acid Attack of Dense Shaped Refractory Products".

Compared with ISO 8890.1988, this document has major structural adjustments. Comparison list of structure number changes between the two files

See Appendix A.

Compared with ISO 8890.1988, this document has many technical differences. Vertical single words should be used in the outer margins of the clauses involved.

The line (?) is marked. A list of these technical differences and their causes is provided in Appendix B.

The following editorial changes have been made to this document.

---In order to coordinate with the existing standards, the name of the standard is changed to "Test Method for Acid Resistance of Refractory Materials";

---Added Appendix A (informative) "Comparison of this document with ISO 8890.1988 structure number";

---Added Appendix B (informative) "Technical differences between this document and ISO 8890.1988 and their reasons".

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

1 Scope

This document describes the acid resistance test method of refractory materials, including instruments, equipment, reagents, sample preparation, test methods, result calculation and test

inspection report.

This document is applicable to the sulfuric acid and mixed acid corrosion resistance tests of refractory materials.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations

For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all change orders) applies to

this document.

GB/T 4513.2 Monomorphous refractory materials Part 2.Sampling (GB/T 4513.2-2017, ISO 1927-2.2012, IDT)

GB/T 4513.5 Monomorphous refractory materials Part 5.Sample preparation and pretreatment (GB/T 4513.5-2017, ISO 1927-5.

2012,MOD)

GB/T 4513.6 Monomorphous refractory materials Part 6.Determination of physical properties (GB/T 4513.6-2017, ISO 1927-6.

2012,MOD)

GB/T 6005 Basic dimensions of test sieve wire mesh, perforated plate and electroformed sheet mesh (GB/T 6005-

2008,ISO 565.1990,MOD)

GB/T 8170 Numerical rounding rules and representation and determination of limit values

GB/T 10325 Sampling inspection rules for acceptance of shaped refractory products (GB/T 10325-2012, ISO 5022.1979, NEQ)

GB/T 18930 Refractory terminology (GB/T 18930-2020, ISO 836.2001, MOD)

3 Terms and definitions

The terms and definitions defined in GB/T 18930 and the following apply to this document.

3.1

The ratio of the remaining mass of the sample after acid etching to the original mass.

Note. Expressed in percentage.

3.2

The ratio of the mass lost by the sample after acid etching to the original mass.

Note. Expressed in percentage.

3.3

The ratio of the flexural strength of the sample after acid etching to the flexural strength of the sample before the test.

Note. Expressed in percentage.