ICS 81.060.30
CCS Q 32

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 39713-2020

Testing mothed for specific surface area of ceramic powders - BET gas adsorption operation

Issued on: December 14, 2020 **Implemented on: July 1, 2021**

Issued by: State Administration for Market Regulation, China National Standardization Administration

Table of Contents

Foreword

This standard was drafted in accordance with the rules given in GB/T 1:1-2009:

This standard uses the redrafting method to modify and adopt ISO 18757:2003 "Fine Ceramics (Advanced Ceramics, Advanced Technical Ceramics) BET Gas

Volume adsorption method to test the specific surface area of ceramic powder":

Compared with ISO 18757:2003, this standard has many adjustments in structure: Appendix A lists this standard and ISO 18757:2003:

The chapter number comparison list:

Compared with ISO 18757:2003, there are technical differences between this standard and the clauses related to these differences have been passed on the outer margins:

The set vertical single line (|) is marked, and a list of the corresponding technical differences and their reasons is given in Appendix B:

This standard also made the following editorial changes:

---The standard name was revised to "Test Method for Specific Surface Area of Fine Ceramic Powder Gas Adsorption BET Method";

---Appendix A and Appendix B have been added:

This standard was proposed by the China Building Materials Federation:

This standard is under the jurisdiction of the National Industrial Ceramics Standardization Technical Committee (SAC/TC194):

Drafting organizations of this standard: Shandong Industrial Ceramics Research and Design Institute Co:, Ltd:, China Building Materials Inspection and Certification Group Zibo Co:, Ltd:, Sinoma

Jiangxi Dianci Electric Co:, Ltd:, Best Instrument Technology (Beijing) Co:, Ltd:, Sinoma Advanced Materials Co:, Ltd:

1 Scope

This standard specifies the test method for the specific surface area of fine ceramic powder: The terms and definitions of the gas adsorption BET method, principles, test procedures, test

Test conditions, data processing and test reports:

This standard applies to the low-temperature nitrogen adsorption BET method to test the specific surface area of fine ceramic powder, and the detection range is 0:01m2/g~2000m2/g:

2 Normative references

The following documents are indispensable for the application of this document: For dated reference documents, only the dated version applies to this article

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

GB/T 19587 Gas adsorption BET method to determine the specific surface area of solid substances (GB/T 19587-2017, ISO 9277:2010,

IDT)

ISO 8213 Industrial chemical products sampling technology from powder to coarse-grained solid chemical products (Chemical

productsforindustrialuse-Samplingtechniques-Solidchemicalproductsintheformofparticlesva-

ryingfrompowderstocoarselumps)

ISO 14488 Sampling and sample separation (Particulatematerials-Samplingand

samplesplittingforthedeterminationofparticulateproperties)

3 Terms and definitions

The terms and definitions defined in GB/T 19587 and below apply to this document:

3:1

Adsorption

Enrichment of adsorbed gas on the outer surface of the solid material and the accessible inner surface:

3:2

Physisorption

The weak bonding of the adsorbate, and the small change in pressure and temperature can trigger the adsorption of the process reversal:

3:3

Adsorbate

Adsorbed gas:

3:4

Adsorptive

Gas or vapor that can be adsorbed:

3:5

Adsorbent

The solid material where adsorption occurs: