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

GB/T 45880-2025

**Determination of friction and wear characteristics of monolithic
ceramics - Ball-on-disc method**

单片陶瓷摩擦和磨损特性的测定 球板法

(English Translation)

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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.

This document is modified to adopt ISO 20808:2016 "Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of the Friction and Wear Characteristics of.

The technical differences between this document and ISO 20808:2016 and their reasons are as follows.

--- Replaced ISO 1101 with the normative reference GB/T 1182 to improve operability (see 5.3, ISO 20808:2016 5.3);

--- Replaced ISO 4287 with the normative reference GB/T 3505 to improve operability (see 5.2, 5.3, ISO 20808:2016 5.2, 5.3);

--- Replaced ISO 3274 with the normative reference GB/T 6062 to improve operability (see 6.6, ISO 20808:2016 6.6);

--- Replaced ISO /IEC 17025 with the normative reference GB/T 27025 to improve operability (see Chapter 9, ISO 20808:2016, Chapter 9). The following editorial changes have been made to this document.

--- To coordinate with the existing standard, the name of the standard is changed to "Determination of friction and wear characteristics of monolithic ceramics - Ball-plate method".

1 Scope

This document specifies the procedure for determining the coefficient of friction and specific wear rate of monolithic ceramics. In this method, the material is placed in a ball-on-disk apparatus and The measurements were carried out in pairs in a dry, non-abrasive environment.

This document applies to the determination of friction and wear properties of fine ceramics.

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 to This document.

GB/T 1182 Geometrical Product Specifications (GPS) Geometric Tolerances - Shape, Orientation, Position and Runout Tolerances (GB/T 1182-2018, ISO 1101:2018, MOD)

GB/T 3505 Geometric Product Specification (GPS) - Surface Structure Profilometry - Terms, Definitions and Surface Structure Parameters (GB/T 3505-2009, ISO 4287:1997, IDT)

GB/T 6062 Product Geometry Specification (GPS) Nominal characteristics of surface structure profilometry contact (stylus) instruments (GB/T 6062-2009, ISO 3274:1996, IDT)

GB/T 27025 General requirements for the competence of testing and calibration laboratories (GB/T 27025-2019, ISO /IEC 17025:2019, IDT)

ISO 3611 Geometrical product specifications (GPS) Dimensional measuring equipment. Design and metrological characteristics of outside micrometers

ISO 80000-1 Quantities and units - Part 1: General

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Wear

The relative motion between the surface of an object and the contact material or substrate produces a gradual loss of solid surface material or a gradual replacement of material. Changes in life.

3.2 Wear test

Methods for evaluating the friction and wear behavior of materials during sliding contact.