

ICS 25.100.70

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

GB/T 17588-2025

Replacing GB/T 17588-1998

**Basic terminology for grinding process using grinding wheels
(English Translation)**

Issued on: June 30, 2025

Implemented on: January 1, 2026

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

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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 replaces GB/T 17588-1998 "Basic terminology of grinding wheels". Compared with GB/T 17588-1998, except for the structural adjustment, Besides the editorial changes, the main technical changes are as follows.

a) Added "high feed grinding", "finishing grinding", "centerless grinding", "follow-up grinding", "ductile region grinding", "high speed grinding", "ultra-high speed grinding", etc.

Terminology of grinding methods (see 6.6.6 to 6.6.12);

b) Added the term "grinding allowance" (see 8.6);

c) The term "grinding specific energy" is added (see 9.3).

This document is modified to adopt ISO 3002-5:1989 "Fundamental parameters of cutting and grinding - Part 5: Basic terminology for grinding with abrasive wheels".

This document has the following structural adjustments compared to ISO 3002-5:1989.

--- Introduction corresponds to Chapter 1 of ISO 3002-5:1989, and Chapter 1 has been redrafted;

---Added 6.6.6 to 6.6.12 in 6.6;

--- Added 8.6 in Chapter 8;

--- Added 9.3 in Chapter 9.

The technical differences between this document and ISO 3002-5:1989 and their reasons are as follows.

--- Replaced ISO 3002-1:1982, ISO 3002-3:1984 and ISO 3002-4 with the normative reference GB/T 12204-2010.

1984 (see 3.1), the degree of consistency between national standards and international documents is revised to adapt to my country's technical conditions;

--- Replaced ISO 841:1974 (see 3.5) with the normative reference GB/T 19660-2005 to adapt to the new requirements;

--- Added "high feed grinding", "finishing grinding", "centerless grinding", "follow-up grinding", "ductile region grinding", "high speed grinding", "ultra-high speed grinding", etc.

Terminology of grinding methods (see 6.6.6 to 6.6.12) to adapt to the development of grinding technology;

--- Added terms such as "grinding allowance" and "grinding specific energy" (see 8.6 and 9.3) to establish the concepts of related grinding parameters.

The following editorial changes have been made to this document.

--- Change the name of the standard to Basic Terminology of Grinding Wheels;

--- Changed the relevant expressions in accordance with the writing rules of my country's terminology standards;

---Added Chinese and English indexes.

Introduction

This document aims to apply the basic terms defined in GB/T 12204-2010 and ISO 3002-2 to grinding, and to Specialized grinding terminology has been added to the process.

In this document, the term grinding is limited to material removal operations using grinding wheels as tools.

The main motion is the rotation of the grinding wheel, which causes a considerable peripheral speed in the contact area between the grinding wheel and the workpiece.

Feed motion is applied to the tool or workpiece to obtain continuous removal of workpiece material.

In the form of fine chips.

The feed motion 1) consists of several sub-motions, and the machined surface is generated by the combined action of the grinding wheel profile and the motion path.

1) See 2.6.1 and 2.6.2 of GB/T 12204-2010.

Basic terms of grinding wheel

1 Scope

This document defines the basic terms used in grinding technology and their definitions, symbols and measurement units for some terms.

This document is applicable to the grinding profession and related industries.

Note: Appendix A lists the Chinese and English translations of terms.

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 12204-2010 Metal cutting basic terms (ISO 8002-1:1982, ISO 8002-3:1984, ISO 8002-4.

1984, MOD)

GB/T 19660-2005 Industrial automation systems and integrated machine tool numerical control coordinate systems and motion nomenclature (ISO 841.

2001, IDT)

ISO 3002-2:1982 Fundamental parameters of cutting and grinding - Part 2: Geometrical parameters of the active part of the tool and of the cutting tool and cutting element

3.1 Symbols and subscripts

Unless otherwise specified, the basic symbols defined in GB/T 12204-2010 and ISO 3002-2:1982 are used together with the following symbols.

Used in grinding.

---A. Area;

---l. length;

---b. width.

Add subscripts where appropriate, including.

---s. parameters related to the grinding wheel, such as v_s . peripheral speed of the grinding wheel;

---w. parameters related to the workpiece, such as v_w . peripheral speed of the workpiece;

---m. Parameters related to the workbench or workpiece support, grinding wheel support (see 3.2);

---d. Parameters related to the trimming or shaping process or shaping tools;

---' (apostrophe in the upper right corner of the code). indicates the effective grinding wheel contour length per unit (4.6.1) or the effective grinding wheel width per unit (4.6.2) Related parameters, such as $F' = F/b$.

3.2 Workbench

In this document, the term "table" refers to the part of the machine tool that moves relative to the machine bed. The table can be used to support the workpiece or Supports the grinding wheel.