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

GB/T 12370-2025

Replacing GB/T 12370-1990

Bevel and hypoid gears - Terminology

锥齿轮和准双曲面齿轮 术语

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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 12370-1990 "Terminology for Bevel Gears and Hypoid Gears". Compared with GB/T 12370-1990, except for... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

- a) Added the terms and definitions for "tooth line", "tooth surface overlap", "axial overlap", and "actual overlap" (see 3.1.8, 3.4.5, 3.4.4,...). 3.4.6, 3.4.10);
- b) Modified the following. "Figure-8 meshing bevel gear tooth profile", "Figure-8 meshing crown gear", "Figure-8 meshing production gear", "Production gear", "Forward turning tooth surface", and "Reverse turning tooth surface". The terms "tooth surface", "spherical involute", "total contact ratio", "end face contact ratio", "high displacement bevel gear pair", and "angular displacement bevel gear pair" are used to describe this relationship. Definitions (see 3.1.4-3.1.7, 3.2.5, 3.2.6, 3.3.2, 3.4.2, 3.4.3, 3.4.7, 3.4.8; 3.1.4-3.1.7 in the.1990 edition). 3.2.5, 3.2.6, 3.3.2, 3.4.8, 3.4.9, 3.4.11, 3.4.12);
- c) The following terms have been deleted. "tooth surface", "total action arc", "end face action arc", "longitudinal action arc", "total action angle", "end face action angle", and "longitudinal action arc". Use the terms and definitions of "angle" and "longitudinal overlap" (see 3.1.8, 3.4.2~3.4.7, 3.4.10 of the.1990 edition);
- d) The term and definition of "standard shrinkage" have been added (see 4.4.1);
- e) The terminology and definition of "bevel gear pair" have been changed (see 4.1.2,.1990 edition 4.1.2);
- f) The following terms have been deleted. "quasi-hypoid gears," "end-face gears," "cylindrical gear end-face gear pairs," "orthogonal bevel gears," and "equal-diameter orthogonal bevel gears." The terminology and definition of "oblique bevel gears" (see sections 4.1.4, 4.1.7, 4.1.8, 4.1.10, 4.1.11, and 4.1.13 in the.1990 edition);
- g) The titles of sections 4.4 were changed, and the classification method was changed to "tooth shrinkage" and "tooth height shrinkage" (see 4.3, 4.4,.1990). Versions
- h) Added "[tooth surface] midpoint" (see 5.1.6);

1 Scope

GB/T 12370-2025 is the Chinese national standard on bevel and hypoid gears -

terminology, in the field of mechanical systems and components. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 31 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2026. Classification: ICS 21.200, CCS J17. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document defines the common terminology and definitions for bevel gears and quasi-hyperboloid gears, including kinematics and geometry, bevel gears and quasi-hyperboloids. Gear classification, points, curves and surfaces, basic dimensional parameters, design and adjustment calculations, machining methods and equipment, gear tooth contact, inspection and testing, etc. the term. This document applies to technical documents and work communications involving bevel gears and hypoid gears.

Note. Unless otherwise specified, "bevel gear" in this document refers to "bevel gears and hypoid gears".

2 Normative references

This document does not contain any normative references.

3.1 Kinematics

3.1.1 A gear pair whose two axes intersect.

Note. See Figure 1. Figure 1

3.1.2 A gear pair whose two axes are neither parallel nor intersecting.

Note. See Figure 2.