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

GB/T 12371-2025

Replacing GB/T 12371-1990

**Bevel gears - Information of the dimensional data to be given
on the drawing**

锥齿轮 图样上应注明的尺寸数据

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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 supersedes GB/T 12371-1990 "Dimensional Data to be Indicated on Bevel Gear Drawings" and is consistent with GB/T 12371-1990. Aside from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The scope has been changed (see Chapter 1, Chapter 1 of the 1990 edition);
- b) Added general data for drawing annotations, such as cone angle and offset distance (for hypoid gears with axial offset) (see Chapter 4);
- c) Added data and parameters that need to be listed in tables, such as "tool head radius" (see Chapter 5). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the National Technical Committee on Gear Standardization (SAC/TC52). This document was drafted by: Zhengzhou Machine Tool Research Institute (Zhengzhou) Transmission Technology Co., Ltd., Tianjin No.1 Machine Tool Co., Ltd. of China General Technology Group, and Longmen Machinery Laboratory, Xi'an Laser Transmission Technology Co., Ltd., Nanchang Jiangling Group Xiehe Transmission Technology Co., Ltd., China Academy of Machinery Science and Technology Zhengzhou Machinery Research Institute Co., Ltd., Northwestern Polytechnical University, China Coal Zhangjiakou Coal Mining Machinery Co., Ltd., Chongqing University, Dalian University of Technology, Henan University of Science and Technology Technical University, Guangxi University, Zhejiang Tongli Transmission Technology Co., Ltd., Chang'an University, Harbin Institute of Technology, Henan University of Technology, Zhengzhou University of Aeronautics and Astronautics Air Force Industrial Management College, Luoyang Yuege Intelligent Equipment Co., Ltd., and China General Technology Group Machine Tool Engineering Research Institute (Tianjin) Co., Ltd. The main drafters of this document are: Pei Bang, Zhao Ning, Yang Jianjun, Wang Zhigang, Hou Likang, Cao Zhigang, Peng Yuanjun, Fan Ruili, Li Haixia, and Guo Hui. Liu Lan, Xiang Chunjian, Sun Linlin, Song Chaosheng, Wang Zhi, Xu Wenbo, Shao Dengjun, Zhang Kun, Deng Jing, Li

Chunfei, He Zhaoxia, Xing Kan, Yu Guangbin, Yang Yongfei Shi Lubing, Mo Shuai, Weng Jungui, Wei Bingyang, Guo Qingqing, Guan Hongjie, Shen Huipeng, Zhi Yanfeng, Yu Feipeng, Chen Shengchao, Chen Liang, Wang Xiaopeng. This document was first published in 1990, and this is its first revision. The dimensions to be indicated on the bevel gear drawing

1 Scope

GB/T 12371-2025 is the Chinese national standard on bevel gears - information of the dimensional data to be given on the drawing, 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 29 August 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 March 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.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 2821 Gear Geometric Element Designations

GB/T 3374.1 Gears - Terminology and Definitions - Part

GB/T 11365 Precision System for Bevel Gears

GB/T 12369 Basic Tooth Profiles of Straight and Helical Bevel Gears

GB/T 12370 Terminology for Bevel Gears and Hypoid Gears

3 Terms and Definitions

The terms and definitions defined in GB/T 2821, GB/T 3374.1 and GB/T 12370 apply to this document.

4. General dimensional data that need to be marked on the drawing General dimensions that should be marked on the drawing include, but are not limited to.

- Tooth tip circle diameter and its tolerances;
- Toe width (b);
- Vertex cone angle (face cone angle) ($\delta_{aa1,2}$);
- Root cone angle ($\delta_{af1,2}$);
- Cone angle ($\delta_{a1,2}$);
- Back cone angle ($\delta_{ab1,2}$);
- Hole (shaft) diameter and its tolerances;
- Location surface (mounting reference surface);
- Installation distance (the distance from the apex of the cone to the locating surface and its tolerance, or the distance from the intersection to the locating surface and its tolerance);
- Crown base distance (gear crown distance) (the distance from the large end tooth cusp to the locating surface) and its tolerances;
- The distance from the front cone end face to the positioning surface;
- Tooth surface roughness (if required, including the surface roughness of the tooth root surface and the tooth root fillet);