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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 6443-2025

Replacing GB/T 6443-1986

Information of dimensional data and other requirements given on the drawing for cylindrical involute gears

渐开线圆柱齿轮图样上应注明的尺寸数据和其他要求

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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 6443-1986 "Dimensional Data to be Involute Cylindrical Gear Drawings" and is consistent with GB/T 6443-1986. In comparison, 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 1986 edition);

b) The "Other" requirement has been removed (see Chapter 3 of the 1986 edition);

c) Added "Partial View" (see Chapter 6);

d) Added "Technical Requirements" (see Chapter 7);

e) Added "Special Markings" (see Chapter 8);

f) The example of drawing annotations has been revised (see Chapter 9, Chapter 4 of the 1986 edition);

g) Added "Calculation of the line of engagement of involute cylindrical gears" (see Appendix A). 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 Huajian Tianheng Transmission Co., Ltd., and Zhejiang Shuanghuan Transmission Co., Ltd.

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Involute cylindrical gear drawings serve as the basis for gear design and manufacturing, containing the necessary information for gear part machining and acceptance. This document outlines the dimensional data and manufacturing requirements. Based on the current state and development of gear design and manufacturing technology, this document specifies the information that should be included on the drawings. To enrich and improve. Meshing calculations are the foundation of gear design, and drawing annotations serve as the basis for gear machining and inspection. Appendix A provides the fundamental theoretical basis for involute gear tooth profile modification, gear strength, and scuff calculations, enriching the theoretical foundation of gear design in my country. The fundamentals of this work provide guidance for designers and manufacturers of gear transmission devices. Appendix B provides several examples of annotations for designing tooth profiles and helical modification drawings, which can help gear engineers better understand... The requirements for involute tooth profile and helix modification are crucial for a more comprehensive and accurate understanding of the marking and inspection of gear design tooth profiles and helices. method. The drawing of an involute cylindrical gear should specify... Size data and other requirements

1 Scope

GB/T 6443-2025 is the Chinese national standard covering what has to appear on a gear drawing - the basic rack and the module, the number of teeth and the profile shift, the tooth thickness and how it is to be measured, the accuracy grade and the mating gear data, so that the part can be made and inspected from the drawing alone. It replaces GB/T 6443-1986, a standard thirty-nine years old. In force from 1 May 2026. Issued on 31 October 2025, it has been in force since 1 May 2026, replacing GB/T 6443-1986.

This document specifies the drawing annotations, tabular data, partial views, technical

requirements, and special markings on involute cylindrical gear drawings. The question is asked, and an example of drawing annotation is provided. This document applies to the design, machining, and acceptance of involute cylindrical gear parts. This document is formatted in metric units, but imperial units are also applicable.

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 131 Product Geometric Specification (GPS) - Representation of Surface Structure in Technical Product Documents

GB/T 1182 Product Geometric Specification (GPS) - Geometric Tolerances. Shape, Orientation, Position and Runout Tolerances

GB/T 1800.1 Product Geometric Specification (GPS) - Linear Dimensional Tolerances - ISO Notation System - Part

3 Terms and Definitions

The terms and definitions defined in GB/T 3374.1, GB/T 10095.1-2022 and GB/T 10095.2 apply to this document.

4.Drawing annotations The following (including but not limited to) should be directly labeled in the view of the drawing.

a) Tolerances for the diameter, shape, and position of the tooth tip circle;

b) Pitch circle diameter;

c) Base circle diameter (if necessary);

d) Tooth width and its tolerances;

e) Diameter, shape, and positional tolerances of holes or shafts;

f) Dimensional, shape, and positional tolerances of keyways (if any);

g) Dimensional, shape, and positional tolerances of the datum and locating surfaces;

h) Surface roughness of machined surfaces such as tooth surfaces.