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

GB/T 11365-2019

Bevel gears - ISO system of accuracy

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- 3.1 Terms and definitions

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 11365-1989 "Bevel and Hypoid Gear Accuracy", compared with GB/T 11365-1989, the main

The technical changes are as follows.

---Tolerance value is originally given by the table, and is calculated by the formula;

---The definition of terms is revised from 23 items to 10 items. If the tangential comprehensive error is changed to the tangential total deviation, the terminology of the transmission error is increased.

Righteousness, the total error of the axis intersection angle, the relative error of the tooth profile, etc. are deleted; some terms are defined in the informational appendix, such as double-sided meshing

Deviation, etc.

This standard uses the translation method equivalent to ISO 17485.2006 "Bevel Gear Precision System".

This standard has made the following editorial changes.

--- The first use of f_{is} in Tables 1 and 2 was changed from "3.1.6" to "3.1.5";

--- The first use of R_i in Table 1 was changed from "Figure 1" to "Figure 2";

--- f_{is} (design) in Table 2 is changed to f_{is} (design);

--- The formula on the right side of the formula 5.4 "(2)" ~ "(9)" is changed to "(4)" ~ "(11)", the formula number in the paragraph text is unchanged.

This standard is proposed and managed by the National Gear Standardization Technical Committee (SAC/TC52).

This standard was drafted. Henan University of Science and Technology, Zhengzhou Machinery Research Institute Co., Ltd., Shandong Huacheng Zhongde Transmission Equipment Co., Ltd., Hal

Binjingda Measuring Instrument Co., Ltd., Beijing University of Technology, Jiangsu Zhonggong High-end Equipment Research Institute Co., Ltd., Northwestern Polytechnical University, Beijing Airlines

Aerospace University.

1 Scope

This standard specifies the accuracy terminology, grade and tolerance values for unassembled bevel gears, hypoid gears and their components. Tooth profile

Terminology, hierarchy, and allowable values for precision.

This standard provides a uniform tolerance scale for both the supply and demand sides, and defines 10 accuracy levels. From level 2 to level 11, the accuracy is reduced step by step.

The tolerance calculation formula for gear accuracy and its applicable range are specified in 5.4. The scope of application of these formulas is as follows.

$1.0\text{mm} \leq m_m \leq 50\text{mm}$

$5 \leq z \leq 400$

$5\text{mm} \leq d_T \leq 2500\text{mm}$

among them.

m_m --- midpoint normal modulus;

z --- number of teeth;

d_T --- Tolerance reference diameter.

The measurement methods recommended by this standard are described in Chapter 6. The tolerance value is calculated according to the specific size of the bevel gear and is not given in the form of a data table.

Out. However, for the sake of clarity, Appendix A gives a table and illustrations of partial tolerance values.

This standard does not apply to reducers, speed increasers, gear motors, shaft-mounted reducers, high-speed transmissions and other applications according to a given power, speed, transmission

A closed gear unit that is manufactured in comparison to the application environment.

The design of the bevel gear is not limited to the scope of this standard. Determining the accuracy level of the gear that meets the requirements of the working conditions requires a wealth of expertise

Work experience. Note. The design tolerance of a single gear cannot directly correspond to the accuracy of the gear pair assembly.

Gear tolerances outside the scope of this standard shall be determined based on actual operating conditions. This may require additional tolerance settings, unlike this standard

The calculation of the quasi-middle formula.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 3374.1-2010 Gear terms and definitions Part 1. Geometric definitions (ISO 1122-1:1998, IDT)

ISO 23509 Bevel Gear and Hypoid Gear Geometry (Bevel and hypoid gear geometry)

3 terms and definitions, symbols

The following terms and definitions as defined in GB/T 3374.1-2010 and ISO 23509 apply to this document.

Some symbols and terminology contained in this standard may be different from other documents or standards. Users should understand the standard symbols used by themselves.

The meaning of numbers, terms, and definitions.

3.1 Terms and definitions

3.1.1

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