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**Bevel gears—Definitions and
tolerance classification of tooth
flank form deviations**

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Foreword

This Japanese Industrial Standard has been established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Japan Gear Manufacturers Association (JGMA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

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Bevel gears—Definitions and tolerance classification of tooth flank form deviations

Introduction

The pitch deviation, total run-out and total single-flank composite deviation of the tooth flank of bevel gears are specified in **JIS B 1704:2010** that is prepared based on **ISO 17485:2006**. However, **JIS B 1704:2010** does not specify the accuracy on the tooth flank form deviations. Regarding the bevel gears, owing to the delay in the development of measurement technology of the tooth flank form deviations, “the tooth contact inspection” by the sensory evaluation has been practically used. Meanwhile, in 1978, the measurement technology of the tooth flank form deviations was developed in Japan. As the measuring machines of the tooth flank form of bevel gears have been developed in many countries, the measuring methods are becoming common in these 40 years. This Standard has been established to specify the definitions for the tooth flank form deviations of bevel gears.

1 Scope

This Standard specifies the definitions and tolerance classification of tooth flank form deviations of a single bevel gear and hypoid gear pair. The formulae on the tolerances are shown in **6.3**. The scope of this Standard shall be as follows.

$$0.3 \text{ mm} \leq m_{\text{mn}} \leq 50 \text{ mm}$$

$$1 \leq z \leq 400$$

$$5 \text{ mm} \leq d_{\text{T}} \leq 2500 \text{ mm}$$

where, d_{T} : tolerance diameter (mm)

m_{mn} : mean normal module (mm)

z : number of teeth

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS B 0102-1 *Vocabulary of gear terms—Part 1: Definitions related to geometry*

JIS B 0121 *International gear notation—Symbols for geometrical data*

JIS B 0634 *Geometrical product specifications (GPS)—Filtration—Linear profile filters: Gaussian filters*

JIS B 0641-1 *Geometrical Product Specifications (GPS)—Inspection by measurement of workpieces and measuring equipment—Part 1: Decision rules for proving conformance or nonconformance with specifications*

JIS B 1704 *Bevel gear*