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

GB/T 32254-2015

**Precision hot forgings of straight bevel gears - General
specification**

直齿锥齿轮精密热锻件 通用技术条件

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Quarantine;
Standardization Administration of the PRC**

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard by the National Standardization Technical Committee Forging (SAC/TC74) and focal points. Drafting of this standard. Jiangsu Pacific Precision Forging Technology Co., Ltd., Shanghai Automotive Transmission Co., Ltd., Beijing Electrical Institute The study. The main drafters of this standard. Han Guan Xia, Tao Liping, gold red, Huangze Pei, Zhang Haiying, Zhou Lin, Dong Yi, Xu Ji, Wei Wei, Zhou Xuan, Sun Hua standard. Straight Bevel Gear Precision hot forging general technical conditions

1 Scope

China's national general specification for precision hot forged straight bevel gears. It specifies the requirements, the test methods, the inspection rules, and the packaging, handling, storage and marking for these forgings, and it applies to straight bevel gear forgings whose teeth are formed by precision hot forging, of mass not more than 20 kg, with a large end transverse module of not more than 20 mm and a tooth tip diameter of not more than 250 mm. It is the companion to GB/T 32253, which covers the structural design of the same forgings: the design specification says what shape the part may be, and this document says what the delivered forging must be. That division of labour is the usual one for forgings and it works well here, because the two questions are answered by different people - the design specification by the customer's engineer, and this one by the forge and the receiving inspector. The requirements cover the steel, the forging itself, and the properties that result. The steels are alloy structural steels to GB/T 3077 or hardenability-guaranteed structural steels to GB/T 5216, and the hardenability guarantee matters for a gear because a tooth is hardened after forging and a steel whose hardenability varies from heat to heat produces a case depth that varies with it. The forging is judged on its dimensions against the die forging tolerances of GB/T 12362, on its surface condition, on its macrostructure by acid etch against GB/T 226 and the rating diagrams of GB/T 1979, on its grain size, and on its hardness. Accuracy of the tooth portion must be not

lower than grade 10 of GB/T 11365-1989. Issued on 10 December 2015 and in force since 1 July 2016.

This standard specifies the tooth portions of hot precision forging straight bevel gear forging (hereinafter referred to as "hot forging") requirements, test methods, inspection rules, and packaging, handling, storage, marking and other requirements. This standard applies to the final straight portion of the tooth bevel gear forging precision forging forming process, the quality $\leq 20\text{kg}$, end surface modulus $\leq 20\text{mm}$, tooth diameter $\leq 250\text{mm}$.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 191 Packaging - Pictorial signs

GB/T 226 steel macrostructure and defect etching test method RT Test Method. Test Part 1

GB/T 228.1 metallic materials tensile

GB/T 231.1 metallic materials Brinell hardness test - Part 1. Test methods

GB/T 1979 structure steel macrostructure and defect rating FIG. GB/T 2822 standard size

GB/T 2828.1 Sampling procedures for inspection - Part 1. by acceptance quality limit (AQL) retrieval batch inspection sampling plan GB/T 3077 alloy steel

GB/T 5216 guaranteed hardenability structural steel

GB/T 6394 Determination of average grain size of metal

GB/T 11365-1989 bevel and hypoid gear precision

GB/T 12362-2003 steel die forgings tolerances and machining allowances

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Straight Bevel Gear Precision Hot Forging precision hot forging of straight bevel gear Using precision hot forging process to obtain a straight-toothed bevel gear forgings, their surface is no longer for cutting gear, accuracy no less than GB/T 11365-1989 specified 10.

4.1 General provisions

4.1.1 hot forging raw materials used should be $\leq 0.65\%$ carbon content of carbon structural steel alloying elements or $\leq 5.0\%$ of the total content of alloy junction Steel structure, in line with the provisions of GB/T 3077 or GB/T 5216, and other materials may also be used

by the demand and supply sides agreed.

4.1.2 hot forging raw material should be accompanied by a certificate of quality of manufactured products, hot forging manufacturing enterprises can be retested technical requirements, its contents

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