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

GB/T 29532-2013

General specification for steel precision hot die forgings

钢质精密热模锻件 通用技术条件

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Quarantine;
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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., Jiangsu Sunway Precision Forging Co., Ltd., Jiangsu spacecraft Shares Ltd., Beijing Institute of Electrical, Guangdong Province Shao Cast Group Co., Ltd. hot forging factory. The main drafters of this standard. Han Guan Xia, Tao Liping, Huang Zepei, Zhao Hongjun, Xu Xianglong, Huang Tingbo, gold red, Liaochun Hui, Zhou Lin. Precision steel hot forging general technical conditions

1 Scope

China's national general specification for steel precision hot die forgings. It specifies the requirements, the test methods, the inspection rules and the delivery conditions for precision hot forgings, and it applies to rotational hot forgings of mass not more than 18 kg and outside diameter not more than 230 mm made using high precision dies, tooling and dedicated equipment. Precision forging is forging that produces a part close enough to its finished dimensions that most of the machining can be omitted. That is the whole proposition: a conventional forging is a rough shape with generous allowances that a machine shop then cuts away, and the material removed was paid for twice - once as steel and once as machining time and tool wear. A precision forging arrives with net or near-net surfaces on the features that matter, so the machining is reduced to the few surfaces that must be finished. For a part made in the millions - a gear blank, a bevel gear, a constant velocity joint component - the saving is decisive, and it is why the technique dominates automotive driveline production. The properties are better too, because the grain flow follows the shape of the part instead of being cut through by the machining. What makes it demanding is that the tolerances a forging can hold depend on the die, the temperature, the press and the wear, and all four move during a production run. A die at the start of its life produces different dimensions from the same die at the end of it, and thermal contraction from forging temperature has to be predicted rather than measured. So the standard specifies the dimensional and geometric tolerances achievable, the surface condition, the

material and its condition, the mechanical properties, the internal quality and the flash and draft allowances. Issued on 9 June 2013 and in force since 1 March 2014.

This standard specifies the precise hot steel forgings (hereinafter referred to as "hot forgings") requirements, test methods, inspection rules and delivery conditions. This standard applies to the use of high-precision molds, mold and special equipment, the quality in 18kg or less and not greater than the outer diameter 230mm Rotational hot forging.

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. Determination of depth of decarburization GB/T 224 steel

GB/T 231 metallic materials Brinell hardness test (all parts)

GB/T 699 high-quality carbon structural steel

GB/T 700 carbon structural steel

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 12362-2003 steel die forgings tolerances and machining allowances Microstructure

GB/T 13299 Evaluation Method of Steel

GB/T 13320 forging steel Metallographic grading atlas and assessing method

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Precision Hot steel forging steelprecisionhotforgings In the hot forging process temperature range, high-precision molds, mold and special equipment to obtain high dimensional accuracy, tolerances and quality meet Hot forging.

4 Requirements

4.1 basis for acceptance By the demand and supply sides signed forgings diagrams, technical agreements, supply contracts and inventory inspection method for the hot forgings product testing, delivery The main basis.

4.2 raw materials

4.2.1 hot steel forgings chosen should be consistent with GB/T 699 GB/T 700 and GB/T 3077 provisions,, GB/T 5216's.

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