ICS 77.140.85
CCS J 32

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 33879-2017

Multi-way precision die forgings - General specification

多向精密模锻件 通用技术条件

Issued on: July 12, 2017 **Implemented on: February 1, 2018**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine;
Standardization Administration of the PRC

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard by the National Standardization Technical Committee forging (SAC/TC74) and focal point. This standard drafting unit. China

22 Metallurgical Group Co., Ltd.,

22 Metallurgical Group Precision Forging Co., Ltd., Beijing Institute of Electrical and Mechanical Services. The main drafters of this standard.Wan Yi Ming, Li Mingquan, Li Jingsheng, Zhou Lin, Song Changzhe, Zhao Wencheng, Dai Yong, Jin Hong, Chen Wenjing, Wei Wei. Multi-directional precision forgings general technical conditions

1 Scope

China's national general specification for precision die forgings made by multi-way forging. It specifies the technical requirements, the test methods, the inspection rules, the marking and labelling, and the packaging, transport and storage, and it applies to multi-directional precision forgings produced in precision dies. Multi-way forging applies pressure along more than one axis at once, with independently driven punches entering the die from different directions while the die itself stays closed. That is what makes it possible to forge a part with internal cavities and side branches - a valve body, a tee fitting, a common rail - in one operation, where conventional forging would need several stages and a great deal of machining afterwards. The prize is material: a part forged to near-final shape with continuous grain flow is both stronger and cheaper than the same part machined from bar, because the metal that would have become swarf was never bought. The specification covers what such a forging must be and how it is proved.

This standard specifies the technical requirements, test methods, inspection rules, signs, labels Document, package, transport and store. This standard applies to the use of precision molds, multi-direction forging production of multi-directional precision forgings.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 223 (all sections) - Methods for chemical analysis of iron, steel and alloy

GB/T 228.1 tensile testing of metallic materials - Part 1. room temperature test method

GB/T 229 Charpy pendulum impact test method for metallic materials

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

GB/T 699 high-quality carbon structural steel

GB/T 700 carbon structural steel

GB/T 1220 stainless steel rod

GB/T 3077 alloy structural steel

GB/T 4334 metals and alloys corrosion of stainless steel intergranular corrosion test methods

GB/T 6394 metal average grain size determination

GB/T 6402 steel forgings ultrasonic testing methods

GB/T 8541 forging terminology

GB/T 12228 common valve carbon steel forgings technical conditions

3 Terms and definitions

GB/T 8541 defined and the following terms and definitions apply to this document.

3.1 Multi-directional precision die forging multi-wayprecisiondieforgings In the process temperature range, through special molds, using multi-directional forging technology to obtain high precision, precision products to meet the requirements of the forgings.

4.1 Raw materials

4.1.1 The raw materials selected forgings shall comply with the requirements of GB/T 699, GB/T 700, GB/T 1220, GB/T 3077 or GB/T 12228 Provisions, but also the supplier and the buyer can also choose to determine the raw materials. Technical requirements of raw materials should be indicated in the technical agreement or contract.