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

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High pressure spinning dies

强力旋压模具

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document is proposed and coordinated by the National Technical Committee for Mould Standardization (SAC/TC33). This document was drafted by: Inner Mongolia Aerospace Honggang Machinery Co., Ltd., China Electric Power Research Institute Co., Ltd., Harbin Industrial University, Zhejiang Huaxuan Special Equipment Co., Ltd., Zhejiang Yulong Technology Development Co., Ltd., Jinxi Industrial Group Co., Ltd., Xi'an Changfeng Mechanical and Electrical Research Institute, Changchun Equipment and Technology Research Institute, Guangdong Bosai CNC Machine Tool Co., Ltd., Xi'an Bosai Spinning Technology Co., Ltd., Changzhou Zhumei La Die Technology Co., Ltd., Qingdao Zehao Auto Parts Co., Ltd., Ji'an Ruipengfei Precision Technology Co., Ltd., Taizhou Huangyan Xingtai Plastic Mould Co., Ltd., Jiangsu Longcheng Hongli Hydraulic Equipment Co., Ltd., Lianjia Technology (Suzhou) Co., Ltd., Fujian Weierte Spinning Technology Co., Ltd., Suzhou Dongfang Mould Technology Co., Ltd., Zhejiang Sote Heavy Industry Technology Co., Ltd., Guilin Electric Science Research Institute Co., Ltd. company. The main drafters of this document are. Li Fei, Lu Hongjie, Xu Wenchen, Wang Jian, Zhou Zhengfu, Xin Yongzhi, Wang Jingwei, Xu Hengqiu, Zhou Lu, Fan Zuojun, Sun Xiaoxia, Yang Chunpu, Zhang Qixu, Qian Siqiang, Hu Weimin, Liu Hong, Zhang Wujiu, Lin Weidong, Ge Jianming, Wang Min, Li Yongfei, Chen Ji, Shan Debin, Zhao Jianxue, Zhao Shixiong, and Yang Zaiqing. Powerful spinning mold

1 Scope

China's national standard for high pressure spinning dies. Spinning forms a rotationally symmetric part by pressing a blank against a mandrel with rollers while it turns, and the two variants named here do different things: shear spinning thins the wall as it forms, following the sine law that relates the wall thickness to the mandrel's cone angle, while flow spinning

extends a tube by driving material along the mandrel. Both are cold, and both are used where the part must be seamless and strong - pressure vessels, motor cases, wheel rims, gas cylinders - because working the metal cold raises its strength and aligns the grain along the part. The die is the mandrel and its associated tooling, and it takes the full forming load continuously while defining the part's internal surface, so its material, hardness and accuracy determine both the part and the tool's life. The standard covers structural and technical requirements, test methods, inspection rules, marking, packaging, transport and storage, for external cold spinning.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 230.1 Rockwell hardness test for metallic materials Part

GB/T 8541 Forging Terminology

GB/T 8845 Mould Terminology

GB/T 9450 Determination and verification of carburizing and quenching hardening layer depth of steel parts

GB/T 10610 Geometric Product Specification (GPS) Rules and methods for evaluating surface structure by surface structure profile method

3 Terms and definitions

The terms and definitions defined in GB/T 8541 and GB/T 8845 apply to this document.

4 Structure

4.1 Classification Power spinning dies are divided into shear spinning dies and flow spinning dies according to their deformation characteristics.

4.2 Composition The high-power spinning mold is mainly composed of a core mold, a discharge device, a tail top device, etc.

4.3 Typical Structure The typical structure of shear spinning die is shown in Figure 1, and the typical structure of flow spinning die is shown in Figure 2.