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**NATIONAL STANDARD OF THE
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Forging dies - Quick change die sets with X-rail guides

锻模 X型导轨导向快换模架

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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: Nanjing Dongmo Electromechanical Manufacturing Co., Ltd., Anhui Hefei Automobile Forging Co., Ltd., Hubei Sanhuan Forging Co., Ltd., Xiamen Yesheng Electric Co., Ltd., Zhejiang Shuangzhan Precision Machinery Co., Ltd., Beijing Electromechanical Research Institute of China Machinery Engineering

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1 Scope

China's national standard for quick change forging die sets with X-rail guides. Changing dies is the dominant cost of short-run forging: a press stands idle while its dies are unbolted, lifted out, replaced and aligned, and on a large press that can take a shift. Quick change systems reduce it to minutes with pre-set die holders that locate positively, and the economics of that are what make small batch forging possible at all. The X-rail guide refers to the guiding arrangement between the halves of the die set, which is what holds the alignment under the eccentric loads that forging imposes - a die set that deflects under load produces a forging with mismatch between its halves, which is either scrap or a machining allowance nobody wanted. Standardising the die set means a die made for one press fits another, which is what turns tooling into an asset rather than a captive item.

This document specifies the structure, dimensions and technical requirements of the X-type guide rail quick-change die frame for forging dies, describes the corresponding test methods, and specifies Inspection rules, marking, packaging, transportation and storage. This document applies to the manufacture of forging die X-rail guided quick-change die sets.

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 191 Pictorial markings for packaging, storage and transportation

GB/T 230.1 Rockwell hardness test for metallic materials Part

3 Terms and definitions

The terms and definitions defined in GB/T 8845-2017 and the following apply to this document.

3.1 Main die holder A mold frame part in the main and sub-die base structure mold frame, installed on the press, used to fix the sub-die base. [Source: GB/T 8845-2017, 2.5.2.3]

3.2 Auxiliary die holder A mold frame part installed on the main mold base in the main and auxiliary mold base structure mold frame, used to fix the working part of the mold and realize quick change of mold frame parts. [Source: GB/T 8845-2017, 2.5.2.4]

3.3 Guide rail column guiderailpillar A columnar part used to fix the guide plate and ensure the mold frame movement guide, mold closing guide and relative position accuracy.

3.4 Sliding plate Plate-like parts with high hardness or lubricating properties used to correct the relative positions of the upper and lower mold components.