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Die locking force of die casting machines-Test methods

压铸机锁模力 测试方法

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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 is required.

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.

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Introduction

The clamping force is the main parameter that characterizes the specifications of the die-casting machine. At present, there are many methods to test the clamping force of the die-casting machine, and the results obtained by different methods are not the same.

If the test results are biased, it is easy to cause a variety of accidents and cause disputes and conflicts between equipment suppliers and buyers. Therefore, the market urgently needs Develop a unified clamping force test method and clearly define each step of the measurement.

This document is formulated to provide a basis for the clamping force test evaluation of the die casting machine industry, improve the reliability and comparability of the test results, and save Equipment manufacturing costs and standardize market order.

Die casting machine clamping force test method

1 Scope

This document describes the test principle, test conditions, test method and test report for the clamping force test of the die casting machine.

This document is applicable to the detection of clamping force of die casting machines.

2 Normative references

GB/T 13992-2010

GB/T 21269

GB/T 25370-2020

JJG 623-2005

3 Terms and definitions

The terms and definitions defined in GB/T 13992-2010, GB/T 25370-2020 and the following apply to this document.

3.1 Die locking force

After the die casting machine mold is closed, the clamping mechanism applies static pressure to the mold parting surface.

[Source. GB/T 25370-2020, 7.2.9, modified]

3.2 test block

Simulation block When testing the clamping force of a die-casting machine, a pad is used to replace the mold to withstand the static pressure applied by the clamping mechanism.

3.3 tie bar

A long rod that bears the mold clamping load and guides the movement of the movable mold mounting plate in the die casting machine.

[Source. GB/T 25370-2020, 7.2.20]

3.4 Metallic bonded resistance strain gauge

A resistance strain gauge that uses a metal resistor as a sensitive grid and is fixed to the specimen with an adhesive.

Note. Abbreviated as "strain gauge".

[Source. GB/T 13992-2010, 3.1.1, modified]

4 Test Principle

4.1 According to Hooke's law, when a solid material is subjected to force, the stress and strain (unit deformation) of the material are in a linear relationship, satisfying Hooke's law.

The material that does not conform to Hooke's law is called linear elastic material. The tie rod of the die casting machine is a linear elastic material. After the tie rod is subjected to force, according to Hooke's law, the