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

GB/T 46639.3-2025

**Foundry machinery - Vocabulary - Part 3: Die casting machines
and other equipment related to permanent mold casting
process**

铸造机械 术语 第3部分：压铸机及其他永久型铸造设备
(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 3 of GB/T 46639 "Terminology for Foundry Machinery". GB/T 46639 has already published the following parts.

---Part 1: Basics;

---Part 2: Molding, Core-Making Machines and Other Non-Permanent Casting Equipment;

---Part 3: Die Casting Machines and Other Permanent Casting Equipment;

---Part 4: Shot blasting machines and other casting cleaning equipment;

---Part 5: Cupola, casting equipment and ladle.

This document is equivalent to ISO 23472-3:2021 "Foundry machinery - terminology - part 3. die casting machines and other permanent casting equipment".

The following minimal editorial changes have been made to this document.

---Notes have been added or changed for some terminology entries;

---Some files in the "References" file list have been modified.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on

Standardization of Foundry Machinery (SAC/TC186).

Introduction

GB/T 46639 covers casting machinery used in casting production.

Casting, as a metal heat treatment process that involves filling a mold with molten metal and allowing it to solidify to obtain parts or part blanks, has a long history.

History, and its technology is constantly developing and changing. Depending on the mold used, or the method of filling or solidification of the molten metal, it varies.

Depending on the method, there are many different casting processes, such as sand casting, investment casting, lost foam casting, die casting, low-pressure casting, and metal mold casting.

Force casting and centrifugal casting, etc.

GB/T 46639, as the fundamental standard for casting machinery, defines each concept applicable to the general application of casting machinery.

The scope covers various casting equipment for different casting methods and different production process stages.

GB/T 46639 is proposed to be divided into the following six parts.

---Part 1: Fundamentals. The purpose is to define the basic terminology and definitions of casting machinery.

---Part 2: Molding, Core-Making Machines and Other Non-Permanent Casting Equipment. The purpose is to define molding machines, core-making machines, and other non-permanent casting equipment.

Terminology and definitions for long-form casting equipment.

---Part 3: Die Casting Machines and Other Permanent Casting Equipment. The purpose is to define the technical specifications of die casting machines and other permanent casting equipment.

Language and definition.

---Part 4: Shot blasting machines and other casting cleaning equipment. The purpose is to define shot blasting machines and other casting cleaning equipment.

Equipment terminology and definitions.

---Part 5: Cupola, Casting Equipment and Ladle. The purpose is to define the terminology and definitions for cupola, casting equipment and ladle.

---Part 6: Other. The purpose is to define the casting machinery-related terms and

definitions not covered in Parts 1 through 5.

This document is Part 3 of GB/T 46639, defining the terms and definitions for die casting machines and other permanent casting equipment, including various...

Structural features and functions of die casting machines, squeeze casting machines, low-pressure die casting machines, centrifugal casting machines, metal mold gravity casting machines, and other related casting machines Basic concepts of energy, important mechanisms and components, main process flow and parameters.

The formulation of GB/T 46639 provides a foundation for the development and revision of standards in the field of casting machinery, as well as for technical documents and related scientific and technological publications.

It provides a unified basis for terminology.

Casting machinery terminology Part 3: Die Casting Machines and Other Permanent Casting Equipment

1 Scope

This document defines the terms and definitions for die casting machines and other permanent casting equipment.

This document applies to the formulation and revision of standards in the field of casting machinery, as well as technical documents and related scientific and technological publications.

2 Normative references

This document has no normative references.

3 Terms and Definitions

The following terms and definitions apply to this document.

During the injection process, the time required from the start of fast injection to reaching the maximum injection speed.

Access door

protective door

A door that ensures a safe distance from the die-casting unit.

Note 1: Inspection door specifically refers to a protective door that opens outwards.

Note 2: Other permanent casting units are also applicable.

auxiliary equipment

A device that performs additional process functions within a die-casting unit.

Note 1: Auxiliary equipment includes casting devices, part conveying devices, spraying devices, mold temperature control devices, cleaning and finishing devices, insert devices, testing devices, and systems.

Safety devices, integrated control devices, casting cooling devices, vacuum devices, etc.

Note 2: Other permanent casting units are also applicable.

Biscuit; slug

leftover materials

The remaining metal that solidifies and is ejected along with the casting in the mold cavity of a cold chamber die casting machine.

The tube mold is cantilevered and fixed to one or both ends of the machine spindle, or to a flange connected to one or both ends of the spindle in a horizontal centrifugal casting process.

Machine manufacturing.

casting area

The die casting machine allows the maximum projected area of the casting (including the gating system, venting system, and overflow system) on the mold parting surface.

Note: Other permanent casting units are also applicable.