

ICS 71.120; 83.200
CCS G 95



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

GB/T 47626.1-2026

**Rubber and plastics machines - Clamping systems - Part 1:
Safety requirements for magnetic clamping systems**

橡胶塑料机械 夹模系统 第1部分：磁性夹模系统安全要求

(English Translation)

Issued on: May 25, 2026

Implemented on: December 1, 2026

Issued by: State Administration for Market Regulation

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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 1 of GB/T 47626 "Rubber and Plastics Mechanical Clamping

Systems". GB/T 47626 has the following publications.

part.

---Part 1: Safety requirements for magnetic clamping systems.

This document is equivalent to ISO 23582-1:2023 "Plastics and rubber machinery - Clamping systems - Part 1: Safety of magnetic clamping systems".

Require".

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 Petroleum and Chemical Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Rubber and Plastics Machinery (SAC/TC71).

Introduction

In rubber and plastics machinery, the clamping system is often referred to as a quick mold change system. Its core function is to quickly and securely fix the mold onto the rubber substrate.

On the mold plates of plastic machinery. Its emergence was to replace the traditional manual bolt-locking method, thereby significantly shortening mold changeover time and improving efficiency.

High equipment utilization and production response speed, especially suitable for the current demand for multi-variety, small-batch production.

Based on their working principles and power sources, clamping systems are generally classified into mechanical clamping systems, hydraulic clamping systems, pneumatic clamping systems, and...

Magnetic clamping mold system.

GB/T 47626 "Rubber and Plastic Mechanical Clamping System" is proposed to consist of 4 parts.

---Part 1: Safety Requirements for Magnetic Clamping Systems. The purpose is to provide design requirements for magnetic clamping systems (MCS) used in rubber and plastics machinery.

It outlines the basic safety requirements for design, manufacturing, and integration, and provides instructions and operational limitations for safe use.

---Part 2: Safety Requirements for Mechanical Clamping Systems. The purpose is to provide guidelines for the design and manufacture of mechanical clamping systems for

rubber and plastic machinery.

The safety requirements are outlined, and instructions for safe use are provided.

---Part 3: Safety Requirements for Hydraulic Clamping Systems. The purpose is to provide guidelines for the design and manufacture of hydraulic clamping systems for rubber and plastics machinery.

The safety requirements are outlined, and instructions for safe use are provided.

---Part 4: Safety Requirements for Pneumatic Clamping Systems. The purpose is to provide guidelines for the design and manufacture of pneumatic clamping systems for rubber and plastics machinery.

The safety requirements are outlined, and instructions for safe use are provided.

Rubber and Plastic Mechanical Clamping System Part 1: Safety Requirements for Magnetic Clamping Systems

1 Scope

This document specifies the design, manufacture, and application of magnetic clamping systems (MCS) for rubber and plastic machinery (such as injection molding machines and flat vulcanizing machines).

It integrates basic security requirements and provides instructions and operational restrictions for safe use.

This document applies to the use of magnetic clamping systems integrated into machines (which use magnetic force to fix the mold to the machine template) and the resulting base this describes the hazards, hazardous conditions, or hazardous events (see Appendix A), and outlines potential misuse during intended use and as reasonably foreseeable by the manufacturer.

In such cases, the requirement is to eliminate or sufficiently reduce the risks associated with these hazards.

This document specifies the requirements for integrating magnetic clamping systems into machines.

This document does not cover hazards associated with rubber and plastics machinery manufacturing processes or other processes (such as horizontal and vertical injection molding processes).

This document does not include hydraulic, pneumatic, or mechanical clamping systems.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 5226.1-2019 Electrical Safety of Machinery - Electrical Equipment of Machinery - Part 1: General Technical Conditions (IEC 60204-1.

2016, IDT)

GB/T 15706-2012 General principles for safety design of machinery. risk assessment and risk reduction (ISO 12100:2010, IDT) ISO 13849-1 Safety of machinery control systems - Part 1: General design principles Note. GB/T 16855.1-2025 Safety of mechanical control systems - Part 1: Inorganic design principles (ISO 13849-1:2023, IDT) IEC 62061 Electrical safety of machinery - Functional safety of electrical, electronic and programmable electronic control systems.

control systems)

Note: GB 28526-2012 Electrical Safety of Machinery - Functional safety of electrical, electronic and programmable electronic control systems (IEC 62061.

2005, IDT)

3 Terms and Definitions

The terms and definitions defined in GB/T 15706-2012, as well as the following terms and definitions, apply to this document.

The mold is fixed to the rubber and plastic machinery using magnetic force, controlled by one or more magnetic templates (3.3) and a set of magnetic clamping molds.

The device consisting of system (3.2).

A system for controlling the magnetic template (3.3) and monitoring its status.