

ICS 23.060.01
CCS J16



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

GB/T 12227-2025

Replacing GB/T 12227-2005

**General purpose industrial valves - Technical specification for
ductile iron castings**

通用阀门 球墨铸铁件技术规范

Issued on: October 31, 2025

Implemented on: May 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4.Technical Requirements	1
4.1 Geometric shape and dimensional tolerances	1
4.2 Machining allowance	2
4.3 Weight Deviation	2
4.4 Chemical composition	2
4.5 Mechanical Properties	2
4.6 Pressure Test	3
4.7 Metallographic Examination	3
4.8 Surface Quality	3
4.9 Defects and Repairs of Castings	3
4.10 Stress Relief Treatment	3
5.Test Methods	3
5.1 Geometric shape and dimensional tolerances	3
5.2 Machining allowance	3
5.3 Weight Deviation	4
5.4 Chemical composition	4
5.5 Mechanical Properties	4
5.6 Pressure Test	4
5.7 Metallographic Examination	4
5.8 Surface Quality	4
6.Inspection Rules	4
6.1 Inspection Classification	4
6.2 Factory Inspection	4
6.3 Type Testing	5
6.4 Batching, Sampling Methods, and Judgment Rules	5
7.1 Contents of the logo	5
7.2 Tag	6
7.3 Accompanying Documents	6
8 Packaging, transportation and storage	6

8.1 Packaging	6
8.2 Transportation	6
4.Sampling Quantity Table	5

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 replaces GB/T 12227-2005 "Technical Conditions for General-Purpose Ductile Iron Valves". Compared with GB/T 12227-2005, Apart from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The scope has been changed (see Chapter 1, Chapter 1 of the.2005 edition);
- b) The terms "ferritic pearlitic ductile iron" and "side-by-side test block" and their definitions have been added (see
- c) The terms "casting process" and "quality requirements" and their definitions have been removed (see
- 3.4 of the.2005 edition);
- d) Requirements for "geometric shape and dimensional tolerances, machining allowances, and weight deviations" have been added (see 4.1~4.3);
- e) The requirements for tensile properties and minimum impact energy absorption have been changed (see Tables 1 and 2,.2005 editions);
- f) The requirements for "mechanical properties of cast specimens" and "impact values of cast notched specimens" have been removed (see Tables 3 and 4 in the.2005 edition);
- g) A "stress test" requirement has been added (see 4.6);
- h) The requirements for "metallographic examination" have been changed (see 4.7, 3.5 of the.2005 edition);
- i) Requirements for "surface quality, defects and repairs in castings, and stress relief treatment" have been added (see 4.8~4.10);
- j) Added tests for "geometric shape and dimensional tolerances, machining allowances, weight deviations, chemical composition, metallographic inspection, and surface quality". Methods (see 5.1-5.4, 5.7, 5.8);

1 Scope

GB/T 12227-2025 is the Chinese national standard on general purpose industrial valves - technical specification for ductile iron castings, in the field of fluid systems and general-purpose components. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 31 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2026. Classification: ICS 23.060.01, CCS J16. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the technical requirements, test methods, inspection rules, marking and labeling, and accompanying documents for general-purpose ductile iron valve parts. For loading, transportation and storage. This document applies to the design, production, and inspection of ferritic pearlitic ductile iron (hereinafter referred to as "ductile iron") for general-purpose valves.

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 191 Pictorial Symbols for Packaging and Storage

GB/T 228.1 Metallic materials - Tensile testing - Part

3 Terms and Definitions

The terms and definitions defined in GB/T 5611 and the following terms and definitions apply to this document.

3.1 Ductile cast iron containing a ferrite or pearlite matrix or a mixture of ferrite and pearlite.

3.2 Side-by-side cast sample The specimen is cast using the same gating system as the casting and is cast side by side with the casting.

4 Technical Requirements

4.1 Geometric shape and dimensional tolerances The geometry and dimensions of the

castings shall conform to the specifications in the drawings. Dimensional tolerances of the castings shall conform to the requirements of GB/T 6414; special tolerances may apply. Alternatively, it can be executed according to the buyer's drawings and technical requirements.

chinastandards.org · PREVIEW