

ICS 77.140.80

CCS J 31



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

GB/T 37400.6-2019

**Heavy machinery general technical specification - Part 6: Steel
castings**

重型机械通用技术条件 第6部分：铸钢件

Issued on: August 30, 2019

Implemented on: March 1, 2020

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

Table of Contents

1 Scope	1
2 Normative references	1
3 Ordering requirements	1
4 Manufacturing Process	1
5 Technical requirements	2
6 Inspection rules and test methods	9
7 Quality Certificate	11
8 Identification, painting and packaging	12

Foreword

GB/T 37400 "General Technical Conditions for Heavy Machinery" is divided into 16 parts.

- Part 1. Product inspection;
- Part 2. Flame cutting parts;
- Part 3. Welded parts;
- Part 4. Cast iron parts;
- Part 5. Non-ferrous metal castings;
- Part 6. Steel castings;
- Part 7. Repair welding of steel castings;
- Part 8. Forgings;
- Part 9. Machining parts;
- Part 10. Assembly;
- Part 11. piping;
- Part 12. Painting;
- Part 13. Packaging;

1 Scope

Part 6 of China's general technical specification for heavy machinery, covering steel castings. It specifies the ordering requirements, the manufacturing process, the technical

requirements, the inspection rules and test methods, and the quality certification. Steel castings are the largest single components of a heavy machine - the mill housing, the press frame, the crusher body - and they are made in ones. That changes what a specification must do. There is no production run over which to establish a process, so the standard governs the manufacturing route itself: how the steel is made and treated, how the mould is designed and fed, how the casting is heat treated to relieve the stresses that solidification put into it. And it starts with the ordering requirements, because a casting of this size is commissioned rather than bought - the pattern, the machining allowances, the test locations and the acceptance criteria all have to be agreed before anyone melts anything.

This part of GB/T 37400 specifies the ordering requirements, manufacturing process and technical requirements for carbon steel and low alloy steel castings for heavy machinery. Inspection rules and test methods, quality certificates, markings and packaging. This section applies to carbon steel and low alloy steel castings cast in sand or thermal conductivity and sand equivalent molds. This section does not apply to non-structural steel grades such as high manganese steel, heat resistant steel and stainless steel.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article. Pieces. For undated references, the latest edition (including all amendments) applies to this document. Permissible deviation of chemical composition of finished products of GB/T 222 steel

GB/T 223 (all parts) Steel and alloy chemical analysis methods

GB/T 228.1 tensile testing of metallic materials - Part 1

GB/T 228.2 tensile testing of metallic materials - Part 2.

GB/T 229 metal material Charpy pendulum impact test method

GB/T 231.1 Brinell hardness test for metallic materials - Part 1. Test methods

GB/T 4336 Determination of multi-element content of carbon steel and medium-low alloy steels by spark discharge atomic emission spectrometry (conventional method)

GB/T 5678 casting alloy spectral analysis sampling method

GB/T 6060.1 Surface roughness comparison specimens Part 1. Casting surfaces

GB/T 6414 casting dimensional tolerances, geometric tolerances and machining allowances

GB/T 13298 metal microstructure inspection method

GB/T 15056 casting surface roughness evaluation method

GB/T 20066 Sampling and sample preparation method for samples for determination of

chemical composition of steel and iron

GB/T 37400.7 General technical requirements for heavy machinery - Part 7

3 Ordering requirements

3.1 The part number, casting name, drawing number, material grade, delivery status, quantity supplied, weight, inspection shall be indicated in the order contract or agreement. Test items and other additional instructions.

3.2 When the buyer requests special requirements or supplementary requirements other than this part, it shall be agreed upon by the supplier and the buyer.

4 Manufacturing process

4.1 Melting and casting Unless otherwise specified, the smelting method and casting method are determined by the supplier.