ICS 77.040.85
CCS J 32

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 37400.8-2019

Heavy machinery general technical specification - Part 8: Forgings

重型机械通用技术条件 第8部分：锻件

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

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 8 of China's general technical specification for heavy machinery, covering forgings. It

specifies the ordering requirements, the manufacturing process, the technical requirements, the inspection rules and test methods, and the retesting and reheat treatment provisions. Forgings are where a heavy machine carries its highest stresses: the rolls, the shafts, the crankshafts, the press columns and the gear blanks are forged rather than cast because forging closes the porosity of the ingot and orients the grain flow along the direction of loading. The manufacturing process clause matters more here than in most product standards because the property depends on how much the material was worked - the forging ratio - and on the heat treatment that follows, and neither is visible in the finished part. The retest and reheat treatment provisions are the practical ones: a forging that fails its mechanical test can often be re-treated and retested rather than scrapped, and the standard sets out when that is legitimate.

This part of GB/T 37400 specifies the ordering requirements, manufacturing process, technical requirements, inspection rules and tests for general purpose large forgings. Test methods, retests and reheat treatments, quality certificates and markings and packaging. This part is applicable to the ordering, manufacturing and inspection of large forgings of carbon structural steel and alloy structural steel which are freely forged by hydraulic press and forging hammer. Forgings of other materials can also be used as reference.

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.

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

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

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 6394 method for determination of average grain size of metals

GB/T 10561 Steels - Determination of non-metallic inclusions - Standards

GB/T 20066 Sampling and sample preparation method for samples for determination of chemical composition of steel and iron

GB/T 21469 General requirements for machining allowances and tolerances for steel free forgings on hammers

GB/T 21470 hammered steel free forgings machining allowance and tolerance plate,

column, ring, cylinder

GB/T 21471 hammered steel free forgings machining allowance and tolerance shaft

GB/T 33083 Technical specifications for large carbon structural steel forgings Technical conditions for

GB/T 33084 large alloy structural steel forgings

3 Ordering requirements

3.1 The purchaser shall indicate the name of the forging, the standard number of the execution, the forgings group, the material grade, the corresponding technical requirements and the inspection in the order contract.