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

GB/T 37400.2-2019

**Heavy machinery general technical specification - Part 2: Flame
cut parts**

重型机械通用技术条件 第2部分：火焰切割件

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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 2 of China's general technical specification for heavy machinery, covering flame cut parts. It specifies the terms and definitions, the cut surface quality requirements, the inspection requirements and methods, and the quality grades. Oxy-fuel cutting is how heavy plate becomes parts: a machine of this class is largely built from steel plate up to hundreds of millimetres thick, and no shear or saw will handle that. The cut is made by burning the steel rather than melting it - the preheat flame brings the surface to ignition and the oxygen jet oxidises the iron and blows the slag away - which is why the process works on carbon steel and not on stainless or aluminium. What the standard grades is the quality of the

resulting surface: its squareness, its roughness, the depth of the drag lines, the notches from a flame that stuttered, and the hardened layer left behind. That last is the one that matters structurally, since a hardened, cracked cut edge is where a fatigue crack starts.

This part of GB/T 37400 specifies the terms and definitions of flame cutting parts, cutting surface quality requirements, testing requirements, testing methods, Cutting quality grade requirements and marking methods. This section applies to flame cutting, plasma cutting of low carbon steel, medium carbon steel and ordinary low alloy steel with a thickness of 6mm~300mm. Can refer to the implementation.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this article. Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 985.1 Recommended groove for gas welding, electrode arc welding, gas shielded welding and high energy beam welding

GB/T 985.2 recommended groove for submerged arc welding

ISO 9013 Thermal Cut Thermal Cut Classification Product Dimensions and Quality Tolerances (Thermalcutting-Classificationof thermalcuts-Geometricalproductspecificationandqualitytolerances)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Flame cutting flamecutting After preheating the workpiece cutting point to a certain temperature by the thermal energy of the gas flame, the high-speed cutting oxygen flow is sprayed to burn and release the heat. The method of cutting now.

3.2 Perpendicularityorangularitytolerance Let the angle between the tangent and the horizontal be the cutting angle, and the distance between the two parallel tangent lines of the contour of the cutting surface within the set cutting angle range. Off, the theoretical vertical distance between the highest point of the cutting plane and the tangent of the lowest point. see picture 1.