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

GB/T 10051.1-2010

Replacing GB/T 10051.1-1988

**Lifting hooks -- Part 1: Mechanical properties, lifting capacities,
stresses and materials**

起重吊钩 第1部分：力学性能、起重量、应力及材料

(English Translation)

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Foreword

GB/T 10051 "crampon" is divided into the following sections.

- Part 1. mechanical properties, lifting, stress and materials;
- Part 2. Forged hook technical conditions;
- Part 3. Forged hook in check;
- Part 4. shank hook with blank;
- Part 5. Shank hooks;
- Part 6. straight double hook shank blank;
- Part 7. straight double hook shank;
- Part 8. hook beam blank;
- Part 9. hook beam;
- Part 10. hook nut;
- Part 11. hook nut locking plate;
- Part 12. Hook locking means;
- Part 13. Laminated hook technical conditions;
- Part 14. Laminated hook in check;
- Part 15. Laminated single hook.

This section GB/T 10051 Part 1.

The partial modification using DIN15400:1990 ", mechanical properties crampons, from the weight and stress." this section according to DIN15400:1990 redrafted.

Taking into account China's national conditions, in the use of DIN15400:1990 when modified, these technical differences are identified in the single vertical line Involved in the

margins, given the technical reasons for differences and their list in Appendix A for reference.

For ease of use, this section also made the following editorial changes.

- "This standard" be replaced by "this section";
- With a decimal point "." Instead of a comma as the decimal point "." this Part replaces GB/T 10051.1-1988 "Lifting hooks - Mechanical properties, lifting capacities, stresses and materials." this portion of the GB/T 10051.1-1988 main changes are as follows.
- The special hook material DG20, DG20Mn, DG34CrMo, DG34CrNiMo, DG34Cr2Ni2Mo and DG30Cr2Ni2Mo to structural steel Q345qD, Q420qD, 35CrMo, 34Cr2Ni2Mo and 30Cr2Ni2Mo;
- GB T 10051.6 increased content and/GB/T 10051.7 of;
- Mechanical properties of names and symbols according to GB/T 228-2000 been modified;
- Remove the original criteria in Appendix A;
- Appendix A of this section is an informative annex.

This part is proposed by China Machinery Industry Federation.

This part of the National Standardization Technical Committee crane (SAC/TC227) centralized.

This section is responsible for drafting unit. Taiyuan Heavy Machinery Group Co., Ltd.

Participated in the drafting of this section. Beijing Materials Handling Design and Research Institute, Xuzhou Construction Machinery Co., Ltd. Cheung Kong, Baoding Heavy Industries shares Parts Co., China's second heavy machinery company.

1 Scope

This section GB/T 10051 specifies the mechanical properties of the lifting hook, lifting weight, stresses and materials.

This section applies to hook No. 006-250 of crane forging hook (hereinafter referred to as the hook), the hook can refer to other specifications use.

This section does not apply to casting the hook.

2 Normative references

The following documents contain provisions which, through reference GB/T 10051 in this section constitute provisions of this section. For dated references, all subsequent amendments (excluding corrections) or revisions do not apply to this section, however,

encourage an agreement under this section Parties to study the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 714 bridges with structural steel GB/T 3811 crane design specifications GB/T 10051.4 lifting hooks Part 4. shank hook with blank GB/T 10051.5 lifting hooks - Part 5. Shank hooks GB/T 10051.6 lifting hooks - Part 6. straight double hook shank blank GB/T 10051.7 lifting hooks - Part 7. straight double hook shank JB/T 6396 Large alloy steel forgings

3 Mechanical Properties

Hook according to their mechanical properties are divided into five intensity levels are shown in Table 1.

Table 1

strength

grade

Structural steel

The yield strength R_{eH} or extension strength $R_{p0.2}$ /MPa Impact energy A_{kv} (ISO -V)/J 20 °C -20 °C Portrait Landscape Portrait Landscape alloy steel the yield strength R_{eH} or extension strength $R_{p0.2}$ /MPa Impact energy A_{kv} (ISO -V)/J 20 °C -20 °C Portrait Portrait M 235 P 315 (S) 390 (55) (31) 3921 - - - - -390 (35) 27 T - - 490 (35) 27 (V) - - 620 (30) 27 Impact energy at -20 °C test should be carried out, given in parentheses are for reference only impact energy.

Note 1: try to avoid using strength grade brackets.

4 from the weight

At different intensity levels and institutions working level, each hook from the weight shown in Table 2.

According to GB/T 3811 provisions are not included in the table is less than 0.1t and more than 500t lifting capacity, as required according to R10 priority coefficient extension.