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

GB/T 41098-2021

Cranes - Safety - Load lifting attachments

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foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents"

drafted:

This document uses the translation method to be equivalent to ISO 17096:2015 "Safety Lifting Equipment for Cranes":

The Chinese documents that have a consistent correspondence with the international documents normatively cited in this document are as follows:

---GB/T 1251:1-2008 Ergonomic Danger Signals in Public Places and Work Areas
Dangerous Audible Signals

(ISO 7731:2003, IDT);

---GB/T 1251:2-2006 General requirements, design and inspection of visual signals for ergonomic hazards (ISO 11428:

1996, IDT);

---GB/T 1251:3-2008 Audio-visual signal system for ergonomic hazards and information (ISO 11429:1996, IDT);

---GB/T 5226:32-2017 Mechanical and Electrical Safety Mechanical and Electrical Equipment Part 32: Technical Conditions for Hoisting Machinery

(IEC 60204-32:2008, IDT);

---GB/T 5972-2016 Crane wire rope care, maintenance, inspection and scrap (ISO 4309:2010, IDT);

---GB/T 6974:1-2008 Crane Terminology Part 1: General Terms (ISO 4306-1:2007, IDT);

---GB/T 15706-2012 General Principles of Mechanical Safety Design Risk Assessment and Risk Reduction (ISO 12100:2010, IDT);

---GB/T 20652-2006 M(4), S(6) and T(8) welded slings (ISO 4778:1981, IDT);

---GB/T 22437:1-2018 Design principles for crane loads and load combinations - Part 1: General (ISO 8686-1:

2012, IDT);

---GB/T 22437:2-2010 Design principles for crane loads and load combinations - Part 2: Mobile cranes

(ISO 8686-2:2004,MOD);

---GB/T 22437:3-2018 Design principles for crane loads and load combinations - Part 3: Tower cranes

(ISO 8686-3:1998, IDT);

---GB/T 22437:4-2010 Design principles for crane loads and load combinations - Part 4: Jib cranes

(ISO 8686-4:2005,MOD);

---GB/T 22437:5-2008 Design principles for crane loads and load combinations - Part 5: Overhead and gantry cranes

(ISO 8686-5:1992,MOD);

---GB/T 25853-2010 Grade 8 non-welded slings (ISO 7593:1986, IDT);

---GB/T 30024-2020 Competency Verification of Metal Structure of Cranes (ISO 20332:2016, IDT):

For ease of use, the following editorial changes have been made to this document:

---3:10 lack of definition, add the following definition: "Through a magnetic field, provide sufficient force to attract, hold and carry a ferromagnetic load equipment":

---6:1:2 Delete the suspension segment "In addition to the above basic information, the manufacturer should also provide the following special information":

---6:1:2:1 Added the introduction "In addition to the basic information specified in 6:1:1, the manual for steel plate clamps should also provide the following

Special information under:"

--- 6:1:2:2 Add the introductory phrase "In addition to the basic information specified in 6:1:1, the vacuum suction cup manual should also provide the following

Special information under:"

---6:1:2:3 adds the introduction "In addition to the provisions in 6:1:1 in the manual for battery-powered and mains-powered lifting magnets,

In addition to the basic information specified, the following special information should also be provided: ":

--- 6:1:2:4 Add the introductory phrase "In addition to providing the basic information specified in 6:1:1 in the C-type hook and lifting fork manual, it should also be

Provide the following special information:":

---6:1:2:5 Add the introduction "In addition to the basic information specified in 6:1:1, the following special information should be provided in the hanging beam user manual:

Special information:":

---6:1:2:6 Add the introduction "In addition to the basic information specified in 6:1:1, the following special information should be provided in the clamp manual:

Special information:":

---D:1:1:1 adds the introduction "The arrangement of the device is to verify the pull-off force of the lifting magnet (see Figure D:1), which shall meet the following requirements:

condition:":

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

1 Scope

This document specifies the following safety requirements for separable spreaders applicable to cranes, hoists and manual lifting equipment:

--- Steel plate clamps;

---Vacuum suction cup;

* Non-powered vacuum suction cups;

* Power vacuum suction cup (pump, venturi, turbine);

--- Lifting electromagnets (battery powered and mains powered);

--- Lifting permanent magnet;

---Electrically controlled permanent magnet;

--- hanging beam;

---C-type hook;

--- Lifting fork;

---clamp:

This document does not specify the following additional requirements:

- a) the high level of cleanliness required for lifting spreaders that come into direct contact with food or pharmaceuticals for hygienic reasons;
- b) hazards arising from the handling of hazardous materials (e.g: explosives, hot melts, radioactive materials);
- c) hazards arising from operation in an explosive atmosphere;
- d) noise hazards;
- e) electrical hazards;
- f) Hazards due to hydraulic and pneumatic components:

This document does not apply to spreaders for lifting personnel:

This document does not apply to slings, steel (iron) water buns, inwardly expanding spreaders, buckets, double or multi-lobe grabs, and container spreaders:

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document:

ISO 4306-1 Cranes-Vocabulary-Part 1:General

ISO 4309 Cranes wire rope care, maintenance, inspection and scrapping
(Cranes-Wireropes-Careandmainte-
nance,inspectionanddiscard)

ISO 4778 Welded Chains M(4), S(6) and T(8) Grades
[Chainslingsofweldedconstruction-GradesM
(4),S(6)andT(8)]

ISO 7531 General purpose wire rope slings characteristics and technical conditions
(Wireropeslingsforgeneralpurposes-Char-
actorsandspecifications)

ISO 7593 non-welded hanging chain T (8) grade
[Chainslingsassembledbymethodsotherthanwelding-Grade
T(8)]