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

GB/T 20863.2-2025

Replacing GB/T 20863.2-2016

Cranes - Classification - Part 2: Mobile cranes
(English Translation)

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References

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 for standardization documents" Drafting.

GB/T 20863 "Crane Classification" and GB/T 3811 "Crane Design Specifications", GB/T 22437 "Crane Load and Load GB/T 30024 "Capacity Verification of Crane Metal Structures", GB/T 30561 "Crane Rigid Bridge and Door "Type Crane" and other standards together constitute the basic national standard system supporting crane design and calculation.

This document is Part 2 of GB/T 20863 Crane Classification. GB/T 20863 has been published in the following parts.

- Part 1: General provisions;
- Part 2: Mobile cranes;
- Part 3: Tower cranes;
- Part 4: Jib cranes;
- Part 5: Bridge and gantry cranes.

This document replaces GB/T 20863.2-2016 "Crane Classification Part 2: Mobile Cranes".

Compared with 2016, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Changed the scope (see Chapter 1, Chapter 1 of the 2016 edition);
- Changed the terms and definitions, that is, added the normative reference document ISO 4306-1 (see Chapter 3, Chapter 3 of the 2016 edition);
- Added general principles for classification (see 4.1);
- Increased the use level of the whole machine and the corresponding number of working cycles (see Table 1);
- Added mobile crane machine working level A (see Table 2);
- Changed the mobile crane classification table (see Table 3, Table 1 of the 2016 edition);
- Changed the classification of crane components and mechanisms (see 4.3, Table 1 of the 2016 edition).

This document is equivalent to ISO 4301-2:2020 "Crane classification - Part 2: Mobile cranes".

The following editorial changes have been made to this document.

- Added the abbreviation of crane (see 4.1);
- The units in Table 4 are uniformly marked in the table header (see Table 4);
- The Chinese names of units have been added to the formulas.

Introduction

Cranes are used in the field of material handling. Their function is to lift and move loads within their rated lifting capacity. However, their working tasks the design of the crane needs to consider the operating tasks according to the working conditions to achieve the safety level and use efficiency that meet the user's requirements.

Use life.

Classification is a frame of reference between the user and the manufacturer regarding the work that a particular crane can be used for. Classification is also a reference to the crane's structure and mechanical properties.

Basis for mechanical design.

GB/T 20863 "Crane Classification" is the basic and universal standard in the field of crane design and calculation in my country.

In establishing the classification principles and methods of crane complete machine and its parts and mechanisms, promoting trade cooperation and technical exchanges, and

providing Design, manufacturing, modification, maintenance, inspection, use and other work, as well as the contract signing between the supply and demand parties, provide technical reference basis.

The consistency and coordination principles of the standards, GB/T 20863 consists of the following five parts.

--- Part 1: General. The purpose is to provide for the general classification of cranes and their components based on the conditions of use.

--- Part 2: Mobile cranes. The purpose is to specify the classification of mobile cranes and their components and mechanisms.

--- Part 3: Tower cranes. The purpose is to specify the classification of tower cranes and their structures, mechanisms, components, etc.

--- Part 4: Jib cranes. The purpose is to specify the classification of jib cranes and their mechanisms.

--- Part 5: Bridge and gantry cranes. The purpose is to specify the classification of bridge and gantry cranes and their mechanisms.

Crane classification Part 2: Mobile cranes

1 Scope

This document specifies the general classification of mobile cranes and related crane mechanisms based on their operating conditions.

include.

---The total number of working cycles to be performed by the crane within its specified design life;

--- Load spectrum coefficient representing the relative frequency of the lifting load;

---Average displacement under load.

This document is applicable to the duty spectrum between moderate and heavy duty cycles as specified in Table 2.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 20863.1-2021 Crane classification Part 1: General principles (ISO 4301-1:2016, IDT)
ISO 4301-1 Cranes - Classification - Part 1: General ISO 4306-1 Cranes - Vocabulary - Part
1: General Note. GB/T 6974.1-2008 Crane terminology Part 1: General terms (ISO
4306-1:2007, IDT) ISO 4306-2 Cranes - Vocabulary - Part 2: Mobile cranes Note. GB/T
6974.2-2017 Crane terminology Part 2: Mobile cranes (ISO 4306-2:2012, IDT)

3 Terms and Definitions

For the purposes of this document, the terms and definitions defined in ISO 4301-1, ISO 4306-1 and ISO 4306-2 apply.

The URLs for ISO and IEC terminology standard databases are as follows.

4.1 General

Under the same operation task, a working cycle of a mobile crane (hereinafter referred to as "crane") refers to the process from preparing to lift a load to A series of actions that starts when a load is lifted and ends when the next load is ready to be lifted. A task is a characteristic of the crane state and the specified sequence of actions.

Fixed combination.

4.2 Whole Machine Classification

The total number of working cycles C is the sum of all working cycles of the crane during its entire design life.

The total number of cycles can be further broken down into the number of work cycles for typical work tasks. The total number of work cycles is related to the frequency of crane use (e.g.