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

GB/T 20850-2025

Replacing GB/T 20850-2014

**Safety of machinery - Guidelines for the application of
machinery safety standards**

机械安全 机械安全标准应用指南

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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 for standardization documents" Drafting. This document replaces GB/T 20850-2014 "Machinery Safety - Understanding and Guidelines for Machinery Safety Standards" and is compatible with GB/T 20850-2014 Compared with the previous version, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

--- Added a chapter on "Terms and Definitions" (see Chapter 3);

- Added a chapter on "Abbreviations" (see Chapter 4);
- Changed the content of the classification of machinery safety standards, added the drafting rules of machinery safety standards and the classification of machinery safety standards Related content, and adjust Table 1 and Table 2 to appendix form (see Chapter 5, Chapter 6, Appendix B and Appendix C,.2014 Edition Chapter 2);
- Deleted the basic flow chart and process configuration diagram (see Figure 1 of the.2014 edition);
- Changed the illustration of the way to reduce risk by using risk reduction measures including safety functions (see Figure 4,.2014 Edition Figure 3);
- Added the steps for applying machinery safety standards (see 7.1) and the content of adopting relevant Class B standards (see 7.3);
- Changed the diagram of the overview of the confirmation procedure for the safety function (see Figure 6, Figure 5 of the.2014 edition);
- Added a chapter on "Intelligent Safety" (see Chapter 9);
- Added relevant standards and requirements for fences [see 10.2.e)];
- Deleted the relevant content of "mechanical restraint device" (see 7.2.3 of the.2014 edition);
- Add emergency stop device (see 12.1), safety design specifications for fixed facilities close to machinery (see 12.2.2), hazardous energy control (see 12.3) and other supplementary protective measures;

1 Scope

China's national guide to using the machinery safety standards - the map of a body of documents large enough that finding the right one is itself a problem. It gives the guiding principles for applying machinery safety standards, is intended for designers and manufacturers of machinery to understand and use those standards correctly, and does not itself cover the content of type C standards. Machinery safety standardisation is organised in three tiers, and the structure is the thing this document explains. Type A standards give the basic concepts and design principles for all machinery - the risk assessment and risk reduction methodology at the top. Type B standards deal with one safety aspect or one kind of safeguard across many machines: guards, interlocks, emergency stop, safety distances, safety-related control systems, noise, temperature limits for hot surfaces. Type C standards give detailed requirements for a particular machine or family of machines, and where a type C standard exists and departs from a type A or B standard, it takes precedence. A designer who does not know that hierarchy either applies a general standard where a specific one governs, or believes a machine is compliant because a type C standard was met while the

residual risks it does not address remain unassessed. The guide therefore sets out how to find the standards applicable to a given machine, how to work through risk assessment and reduction using them, how the three types relate and which prevails, and how conformity is documented. It is written for the person who has to build a compliant machine, not for the person writing the next standard. Issued on 28 March 2025 and in force since 1 October 2025, it replaces GB/T 20850-2014.

This document gives guiding principles for the application of machinery safety standards. This document is intended for designers and manufacturers of machinery to correctly understand and use machinery safety standards. This document does not cover the content of Category C standards.

2 Normative references

The contents of the following documents constitute 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 15706 General principles for safety design of machinery - Risk assessment and risk reduction

GB/T 16755 Rules for the drafting and presentation of safety standards for machinery

3 Terms and definitions

The terms and definitions defined in GB/T 15706 and the following apply to this document.

3.1 Type-A standard basic safety standard basicsafetystandard Machinery safety standards that cover the basic concepts, design principles and general features of machinery safety that apply to all machinery.

3.2 Type-B standard Generic safety standard A machinery safety standard that specifies a safety feature or a type of safety guard that can be used on most machines.

3.3 Type-C standard Machinery product safety standard machinesafetystandard A machinery safety standard that specifies detailed safety requirements for a specific machine or group of machines. NOTE. The term "group of machines" refers to a number of machines having similar intended uses and similar hazards, hazardous situations and hazardous events.

3.4 acceptable risk acceptable risk The level of risk that is acceptable under given circumstances, based on current societal values. [Source: GB/T 35080-2018, 3.2]