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

GB/T 20118-2025

Replacing GB/T 20118-2017, GB/T 25833-2010, GB/T 20067-2017

General technical requirements for steel wire ropes

钢丝绳通用技术条件

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document supersedes GB/T 20118-2017 "General Technical Requirements for Steel Wire Ropes" and GB/T 25833-2010 "Galvanized Steel Wire for Highway Guardrails". Compared with GB/T 20118-2017, the standards for "Ropes" and "Coarse Diameter Steel Wire Ropes" have undergone structural adjustments and editorial changes. In addition, the main technological changes are as follows:

---Added 3x7, 3x19M, 6x61, 8x61M, 6x35N, 6x61N, 6x91N, 8x61N, 8x91N, and 8x61 (total) Of the 10 wire rope categories, 4 x V39 wire rope categories have been removed (see Table 1,.2017 edition of Table 1).

---Three new wire rope categories have been added. 24(W)x7, 24(W)x19, and 35(W)x36 (see Table 2);

---The steel wire used for rope making has been upgraded to a nominal tensile strength grade of 2060 MPa (see 7.1);

---The requirements for the fiber core have been changed (see 7.2.1,.2017 version 7.2.1);

---The requirement for the minimum distance between wire joints in multi-strand wire ropes has been changed (see 8.3,.2017 version of 8.3);

---The oiling requirements for wire ropes have been changed (see 8.4,.2017 version 8.4);

---Requirements for pre-deformation and post-deformation of wire ropes have been added (see 8.5);

---The requirement for wire rope lay method has been removed (see 8.9 in the 2017 edition);

---The requirements for permissible diameter deviation and out-of-roundness of wire ropes have been changed (see Table 6, Table 6 in the 2017 edition);

---The requirement for wire rope lay length has been increased (see 8.11);

---Added 3x7, 3x19M, 6x61, 6x35N, 6x61N, 6x91N, 8x61, 8x61M, 8x61N, 8x91N,

1 Scope

GB/T 20118 is the Chinese general standard for steel wire rope, and the 2025 edition brings three previously separate standards into one: the general requirements, the galvanized ropes used for highway guardrails, and large diameter ropes. It specifies the classification, the designation, the information to be supplied with an order, the materials, the technical requirements, the inspection, the testing, the acceptance methods, the packaging, marking and quality certificate, and the safety, use and maintenance of the rope. A steel wire rope is sold on one number above all, the minimum breaking force, and the normative Annex C tabulates it for every class, diameter and grade the standard covers; the rest of the document is what makes that number mean the same thing to the maker and to the buyer. The document is a modified adoption of ISO 2408:2017, with the structural changes and the technical deviations set out in two informative annexes. This edition adds ten rope constructions. For a rope maker, a crane or lift builder, or a buyer inspecting a delivery in China, this is the governing text.

This document defines the terminology and definitions for wire rope, provides classification and marking, and specifies the ordering details, materials, technical requirements, inspection, and verification. The method of acceptance, packaging, marking and quality certificate, safety, use and maintenance, and test methods are described. This document applies to round and shaped strand wire ropes made of bright and coated carbon steel wire.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 228.1 Metallic materials-Tensile testing-Part

3 Terms and Definitions

The terms and definitions defined in GB/T 8706 and the following terms and definitions apply to this document.

3.1 wire rope lay length In a single-strand wire rope, the outer strands rotate around the wire rope axis once (or in a spiral) and remain parallel to the steel wire. The distance between two corresponding points on the axis of the silk rope (see Figure 1).