

ICS 77.140.65

CCS H 49



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

GB/T 34197-2025

Replacing GB/T 34197-2017

Electric shovel steel wire ropes

电铲用钢丝绳

Issued on: August 29, 2025

Implemented on: March 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Preface	III
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Classification and labeling	2
4.1 Classification	2
4.2 Mark	4
5 Order Content	4
6 Manufacturing Process	5
6.1 shares	5
6.2 Wire Rope	5
6.3 Rope end handling	5
7 Technical Requirements	5
7.1 Raw materials	5
7.2 Appearance	10
7.3 diameter	10
7.4 Coating thickness	11
7.5 Length	11
7.6 Weight	11
7.7 Breaking strength	12
7.8 Split Steel Wire	12
8 Test methods	16
8.1 General Principles	16
8.2 Raw material inspection or verification	17
8.3 Appearance Inspection	18
8.4 Diameter measurement	18
8.5 Coating thickness measurement	18
8.6 Length Measurement	18
8.7 Weight Measurement	18
8.8 Determination of breaking force	18
8.9 Split Wire Test	19
9 Inspection Rules	19

9.1 Judgment	19
9.2 Retest	20
9.3 Acceptance	20
10 Packaging, marking and quality certificate	20
11 Safety, Use and Maintenance	20
Appendix A (Normative) Mechanical Properties of Typical Structural Steel Wire Ropes ...	21
Appendix B (Informative) Rope End Treatment	36
B.1 Processing method	36
B.2 Materials and Appearance	37
B.3 Consolidation	40
B.4 Length	40
Reference	41

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 34197-2017 "Wire rope for electric shovel". Compared with GB/T 34197-2017, except for the structural adjustment and editing In addition to the functional changes, the main technical changes are as follows.

- Added relevant terms and definitions for wire rope (see Chapter 3);
- Deleted the classification of wire ropes according to the main strand processing method (see 3.2 of the 2017 edition);
- Changed the classification of wire ropes coated and/or filled with solid polymers (see 4.1.2, 3.3 of the 2017 edition);
- Changed the structural classification of wire ropes (see Table 1, Table 10, Table A.1 and Table A.7, 2017 edition Table 1, Table 10, Table A.1 and Table A.7);
- Deleted the two grades 1670 and 1870 in the wire rope grade (see 3.8 and Table 3 of the 2017 edition);
- Added relevant content on wire rope marking (see 4.2);
- Increased the nominal diameter range and related technical requirements of coated steel wire (see 7.1.1);
- Changed the requirements for wire rope lubricants (see 7.1.3, 5.1.3 of the 2017 edition);

- Changed the requirements for the measured diameter and out-of-roundness of wire ropes (see 7.3, 5.4 of the 2017 edition);
- Changed the requirements for the measured weight of wire rope per unit length (see 7.6.2, 5.6.2 of the 2017 edition);
- Added test methods for raw materials for wire ropes (see 8.1.1 and 8.2);
- Changed the wire rope diameter measurement method (see 8.4, 6.3 of the 2017 edition);
- Changed the test methods for tension, unidirectional torsion and repeated bending of split wire (see 8.9.1, 6.7 of the 2017 edition);
- Added the coating weight test method for split steel wire (see 8.9.2);
- Deleted the minimum breaking strength values of wire rope grades 1670 and 1870 (see Tables A.1 to A.7 of the 2017 edition).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the China Iron and Steel Association.

This document is under the jurisdiction of the National Technical Committee on Steel Standardization (SAC/TC183).

This document was drafted by: Xianyang Baoshi Steel Pipe and Wire Rope Co., Ltd., Guizhou Wire Rope Co., Ltd., Juli Rigging Co., Ltd., Shanghai Junwei Wire Rope Sling Co., Ltd., Hunan Xianggang Metal Materials Technology Co., Ltd., and Metallurgical Industry Information Standards Research Institute.

The main drafters of this document are: Cai Jifeng, Zhang Xuan, Xu Xiaopeng, Chen Yansong, Ren Cuiying, Yang Zhenggao, Liu Jiwei, Wang Shijun, Wang Zhouyong, Huang Jianxing, Liu Hongjun, Su Diyao, Qin Congmin, Liu Yuncheng, Xie Yake, Song Ziwu, Liu Lianfu, Wang Lingjun, and Leng Mingjian.

This document was first published in 2017 and this is the first revision. Wire rope for electric shovel

1 Scope

This document provides the classification and marking of steel wire ropes for electric shovels (hereinafter referred to as steel wire ropes), and specifies the ordering content, manufacturing process, technical requirements, Requirements, inspection rules, packaging, marking and quality certificate, safety, use and maintenance, and the corresponding test methods are described.

This document applies to the manufacture and acceptance.

2 Normative references

GB/T 1839

GB/T 2104

GB/T 4354

GB/T 8170

GB/T 8358

GB/T 8706

GB/T 21965

GB/T 24242.2

GB/T 29086

GB/T 43357

3 Terms and Definitions

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

3.1 [Source. GB/T 8706-2017, 2.7.8, modified]

The full cross-sectional pitch diameter of the wire rope including the sheath (outer diameter d') and the pitch diameter of the wire rope excluding the sheath (inner diameter d).

Example. 22/20.

Note. Covered round steel wire rope includes solid polymer covered steel wire rope and solid polymer covered and filled steel wire rope.