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# NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA



# GB/T 8706-2017

## Steel wire ropes -- Vocabulary, designation and classification

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## Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 8706-2006 "Rope Rope Terminology, Marking and Classification". This standard is compared with GB/T 8706-2006.

The main changes are as follows.

--- Modification 2.2.11 is defined as. either typical Walingon (2.2.9), West Lu (2.2.8) and filled (2.2.10) or both

Couplings, including a parallel strand structure made from three or more layers of primary steel wire;

--- Modify 2.1.13 is defined as. the quality of the plating to remove the unit surface area of the coated wire as measured by the specified method;

--- Added "Core composed of natural fibers and synthetic fibers (CFC)" in 2.3.2;

--- Modify 2.6.2.3 is defined as. When under load can produce a multi-strand steel wire rope to reduce the torque or degree of rotation, and according to the lifting load

The rotation characteristics when the load is 20% steel wire rope minimum breaking force is classified as follows;

--- Modification 2.4.2 is defined as. during the manufacture of natural fiber cores, the core is covered or filled to prevent corrosion or rot.

material;

--- Added 2.6.1 wire rope definition. At least two layers of steel wire spiral around a center wire or multiple strands around a cord core

Crafted structure. Divided into multi-strand wire ropes and single-axle wire ropes;

--- Modify 2.6.2.4 is defined as. multiple strands made by two or more layers of stock around one core or fiber core in parallel

Wire rope

--- Added 2.6.2.9 fiber optic cable wire rope and its definition;

--- Corrects the Z of the 2.8.1 unit to Z, S to S, and the correction of SZ in the 2.8.3 interaction to sZ and ZS to ZS.

**2.8.4 Correction of ZZ in the same direction to zZ, correction of SS to sS;**

--- Modification 2.9.5 is defined as the corresponding area or breaking force due to the deduction of the area or strength contribution of the non-load-bearing steel wire.

Reduce value

--- Modify 2.10.16 is defined as. The minimum breaking force after reduction is the sum of the specified value for each type of load wire in the wire rope

The sum of the sum of the cross-sectional areas (calculated as the nominal steel wire) and the product of their corresponding tensile strength levels. After the reduction of the actual test broken

The total breaking force shall not be less than the total value of the minimum breaking force after reduction;

--- Modification 2.10.23 is defined as. The manufacturer's design determines the minimum breaking force (Fc.min) and the calculation of the minimum breakage

The ratio of the total force (Fe.c.min) or minimum breaking force (Fmin) to the specified minimum breaking force (Fe.min);

--- Increased the elastic modulus, elastic elongation, permanent elongation and bending fatigue properties of the 2.11 wire rope characteristics;

--- Table 2 Adds SWS, FS, and SFS codes to the parallel combination and an example of the corresponding share structure;

--- Added 5x5 and 5x7 categories in Table 5, deleted 6x91N categories, modified 6x36 wire layers from 2~3

The number of outer wires in 3~4,6*V8 categories was changed from 7~8 to 7~9, and the number of outer wires in 6*V25 categories was revised from 9~18.

Change to 10~18;

--- Table 6 Note Amend to read. "When the rope is directly used to lift the load, the rotating characteristics of the three or four strands of steel ropes that interact with each other

Compliance with one of the 2.6.1.3 categories can be seen as blocking the rotation of the wire rope;"

--- Modify the number of 1 x 127 wire layers in Table 10 to be >6;

--- Added 4.2.2 classification by purpose and 4.2.3 by diameter;

--- Added Appendix C and Appendix D.

This standard uses the redrafted law to amend ISO 17893.2004 "Rope Rope Terminology, Marking and Classification". This standard incorporates

The amendments to ISO 17893.2004/Amd.1.2010, the clauses covered by these amendments have passed through the marginal position

Straight double lines (||) are marked.

Compared with ISO 17893.2004, this standard has more adjustments in structure. This standard and ISO 17893.2004 are listed in Appendix C.

Compared to the chapter number change control list.

There is a technical difference between this standard and ISO 17893.2004. The terms involved in these differences have passed through the margins on its outer side.

The vertical single line (|) is marked, and a list of the corresponding technical differences and their causes is given in Appendix D.

This standard is proposed by the China Iron and Steel Industry Association.

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

This standard was drafted by. National Metal Products Quality Supervision and Inspection Center, Metallurgical Industry Information Standard Institute, Jianfeng Rigging Co., Ltd.

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## 1 Scope

This standard specifies the definition, marking and classification of wire ropes.

This standard applies to the formulation (revision) of wire rope standards and commonly used terms, marks and classifications in the production and use of wire ropes.

## 2 Terms and definitions

The following terms and definitions apply to this document.

### 2.1.1 Outer wire

2.1.1.1

Outer wire outerwire

< Single wire rope> The outermost steel wire.

2.1.1.2

Outer wire outerwire

< Multi-strand wire rope> The outermost wire in the outer strand.

### 2.1.2 Inner wire innerwires

2.1.2.1

Inner wire innerwire

< Single wire rope> The middle wire between the center wire and the outer wire.

2.1.2.2

Inner wire innerwire

< Multi-strand wire rope> Other steel wires other than the center wire, the filler wire, the cord core, and the outer wire.

2.1.3

Filled steel filerwire

In filled structures, finer wires are used to fill the gap between the steel wires. See Figure 8.

### 2.1.4 Center wire

2.1.4.1

Center wire centerwire

< Single wire rope> The wire in the center of the wire rope.

2.1.4.2

Center wire centerwire

< Multi-strand wire rope> The wire located at the center of the strand.