

ICS 65.150
CCS B 56



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

GB/T 8834-2026

Replacing GB/T 8834-2016

**Fibre ropes - Determination of certain physical and mechanical
properties**

纤维绳索 有关物理和机械性能的测定

(English Translation)

Issued on: February 27, 2026

Implemented on: September 1, 2026

Issued by: State Administration for Market Regulation

Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and Definitions
4 Principles
4.1 Calculation of linear density
4.2 Measurement of diameter, twist pitch, and twist length
4.3 Measurement of rope elongation

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 replaces GB/T 8834-2016 "Determination of relevant physical and mechanical properties of fiber ropes", and is consistent with GB/T 8834-2016.

Aside from structural adjustments and editorial changes, the main technical changes are as follows.

- The scope has been changed (see Chapter 1, Chapter 1 of the 2016 edition);
- The principles have been changed (see Chapter 4, Chapter 4 of the 2016 edition);
- The specimen length for tensile and elongation tests has been changed (see 7.1, 2016 edition of 7.1);
- Added measurement steps for diameter and pitch (see 9.4);
- The test speed has been changed (see 9.5, 2016 version 9.5);
- Increased linear density (see Chapter 10);
- Heat setting for polyamide and polyester ropes has been removed (see Chapter 14 in the 2016 edition);
- The alternative method for initial measurements of large ropes has been removed (see Appendix C of the 2016 edition).

This document is modified to adopt ISO 2307:2019 "Fiber ropes - Determination of physical

and mechanical properties".

The technical differences between this document and ISO 2307:2019, and the reasons therefor, are as follows.

---ISO 139 (see Chapter 8) has been replaced with the normatively referenced GB/T 6529 to adapt to my country's national conditions;

---ISO 9554 (see Chapter 3, 9.3 and B.3.1) has been replaced with the normatively referenced GB/T 21328 to adapt to my country's national conditions;

---ISO 1968 has been replaced with the normatively referenced GB/T 40273 (see Chapter 3) to adapt to my country's national conditions.

The following editorial changes have been made to this document.

---Change clause 12.4.4, referenced in ISO 2307:2019, to 12.4.2;

---Change the clause number of 12.3 referenced in 13.4.1 of ISO 2307:2019 to 13.3.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the Ministry of Agriculture and Rural Affairs of the People's Republic of China.

This document is under the jurisdiction of the National Technical Committee on Fisheries Standardization (SAC/TC156).

1 Scope

This document describes the methods for determining the physical and mechanical properties of fiber ropes. At the customer's request, this document also covers the rope's water resistance, Methods for determining the content of lubricating oils and treatment agents are provided.

This document applies to the determination of physical and mechanical properties of fiber ropes, such as linear density, diameter, twist, pitch, elongation, and breaking strength.

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 6529 Standard atmosphere for conditioning and testing of textiles (GB/T 6529-2008,

ISO 139:2005, MOD) GB/T 21328 General requirements for fiber ropes (GB/T 21328-2024, ISO 9554:2019, IDT) GB/T 40273 Fiber Rope Terminology (GB/T 40273-2021, ISO 1968:2004, MOD)

3 Terms and Definitions

The terms and definitions defined in GB/T 21328 and GB/T 40273, as well as the following terms and definitions, apply to this document.

ISO and IEC maintain a terminology database for standardization using the following addresses.

The lowest breaking strength obtained by using the unjointed method at both ends of the rope (see 9.7.2).

spliced breaking force the minimum breaking strength obtained by using a splicing method at both ends of the rope (see 9.7.3).

4.1 Calculation of linear density

Linear density is determined by the mass of the test sample after temperature and humidity conditioning and its length under pre-tension as specified in Appendix A.

get.

4.2 Measurement of diameter, twist pitch, and twist length

The diameter, twist, and pitch are measured while pretension is applied.

4.3 Measurement of rope elongation

The elongation of a rope is measured by comparing the lengths of a sample subjected to the following tensions successively.