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

GB/T 12347-2025

Replacing GB/T 12347-2008

Steel wire ropes - Fatigue testing method

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Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and Definitions

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 12347-2008 "Test Method for Bending Fatigue of Steel Wire Ropes" and GB/T 38814-2020 "Steel Wire Ropes and Fittings". "Fatigue Testing Methods". This document is based on GB/T 12347-2008 and incorporates content from GB/T 38814-2020. Compared with GB/T 12347-2008, apart from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The scope description has been changed (see Chapter 1, Chapter 1 of GB/T 12347-2008);
- b) The wording of terms and definitions related to planar reverse bending fatigue test, test wheel, and load-bearing dynamic pulley has been revised (see Chapter 3). Chapter 2 of GB/T 12347-2008);
- c) Added descriptions of terms and definitions such as axial tensile fatigue test and combined tensile-bending fatigue test (see Chapter 3);
- d) Added symbols and explanatory descriptions (see Chapter 4);
- e) The description of the principle of wire rope bending fatigue test has been revised (see 5.1, Chapter 3 of GB/T 12347-2008);
- f) The principles of axial tensile fatigue testing and combined tension-bending fatigue testing of wire ropes (rigging) have been added (see 5.2). 5.3);
- g) The description of the wire rope bending fatigue testing machine has been revised (see 6.1, 4.1 of GB/T 12347-2008);
- h) Requirements for axial tensile fatigue testing machines for wire ropes (rigging) and combined tensile-bending fatigue testing machines for wire rope rigging have been added (see 6.2);

- i) The description of the wire rope bending fatigue test specimen has been revised (see 7.1, 5.1 of GB/T 12347-2008);
- j) Requirements for axial tensile fatigue test specimens and combined tensile-bending fatigue test specimens for wire ropes (rigging) have been added (see 7.2, 7.3);

1 Scope

GB/T 12347-2025 is the Chinese national standard on steel wire ropes - fatigue testing method, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 2 December 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 July 2026. Classification: ICS 77.040.10, CCS H22. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the principles, testing equipment, specimens, testing procedures, and test reports for the fatigue testing method of steel wire ropes. This document applies to relevant fatigue performance tests of wire ropes and wire rope slings, including wire rope bending fatigue tests and wire rope... (Ringing) Axial tensile fatigue test, wire rope rigging tension and bending combined fatigue test.

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 3075 Method for controlling axial force in fatigue testing of metallic materials

GB/T 8358 Method for determining the breaking tensile strength of steel wire rope

GB/T 25917.1 Uniaxial fatigue testing systems - Part

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 The specimen undergoes a reciprocating bending fatigue test by bending it at a certain angle in one direction through a test wheel within the same plane.

3.2 The specimen undergoes reciprocating bending fatigue testing by bending it at a certain angle in one direction and then at a certain angle in the opposite direction within the same plane using a test wheel. test.

3.3 Fatigue test of the specimen under axial cyclic tensile test force.

3.4 An external force is used to create a periodically changing bending angle between the centerline of the specimen and the loading line of the testing machine, and then a cyclic force is applied to the specimen. Fatigue tests conducted under ring load.

3.5 driving pulley Mounted on a bending fatigue testing machine, and capable of rotating left and right by a certain arc, it drives the specimen in a reciprocating bending motion within its effective length. Wheel or drum.