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

GB/T 33628-2025

Replacing GB/T 33628-2017

**Wind energy generation systems - Technical requirements for
installation of high-strength threaded fasteners of wind
turbines**

风能发电系统 风力发电机组高强螺纹连接副安装技术要求

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Standardization Administration of the PRC**

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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 33628-2017 "Technical Requirements for Installation of High-Strength Threaded Connection Pairs for Wind Turbine Generator Sets" and is consistent with GB/T Compared to 33628-2017, aside from structural adjustments and editorial changes, the main technical changes are as follows:

- a) A "Terms and Definitions" section has been added (see Chapter 3);
- b) The requirements for installers, fasteners, and installation tools have been revised (see 4.1, 4.3, 4.4, Chapter 3 of the 2017 edition);
- c) The regulations for fastening tools have been revised, and regulations concerning torque wrenches and hydraulic tensioners have been added (see Chapter 5, 2017 edition). Chapter 6);
- d) Added a specification for thread alignment (see 6.1.6);
- e) Added provisions for impact wrenches (see 6.1.7);
- f) The application methods and requirements for lubricants have been changed (see 6.2, 7.4 of the 2017 edition);
- g) Added a specification for the bolt group tightening sequence (see 6.3.1.2);
- h) Added specifications for torque values and tensile force holding pressure (see 6.3.2.2, 6.3.4.2);

- i) The provisions for controlling the load during unit hoisting have been removed (see 7.5.1.4 in the 2017 version);
- j) The regulations for re-inspection have been changed (see Chapter 7, Chapter 8 of the 2017 edition);

1 Scope

GB/T 33628-2025 is the Chinese national standard covering tightening the bolts that hold a turbine together - the preload required and the torque or tension method used to reach it, the friction coefficient that makes torque an unreliable proxy, the tightening sequence, and the retightening after the first period of operation. Bolt failures in tower flanges and blade roots are among the most consequential wind turbine failures. Issued on 31 October 2025, it has been in force since 1 May 2026, replacing GB/T 33628-2017.

This document specifies the installation conditions, fastening tools, and fastening procedures for high-strength threaded connections on wind turbine generator sets (hereinafter referred to as "generator sets"). Art and re-examination. This document applies to both factory and field installation of high-strength threaded connections for the unit.

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 3683 Rubber hoses and hose assemblies - Steel wire braided reinforced hydraulic type for oil-based or water-based fluids

GB 11118.1 Hydraulic Oils (L-HL, L-HM, L-HV, L-HS, L-HG)

GB/T 16823.2-1997 General Rules for Tightening Threaded Fasteners

GB/T 43232 Ultrasonic Measurement Method for Axial Stress of Fasteners

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Composed of high-strength external and internal threads, including high-strength bolts (studs, screws), washers, nuts, or internal threads of grade

8.8 and above. Receive the package.

3.2 Tightening methods that determine bolt preload by controlling axial tension or stretching

amount.

4.1 Requirements for installers

4.1.1 The installation personnel must be in good health and have undergone a medical examination at a qualified hospital in accordance with relevant standards, and must not have any diseases that would prevent them from performing this work. And physiological defects.

4.1.2 Installation personnel should undergo three levels of safety training and hold the corresponding qualification certificates to work during special operations.

4.1.3 Installation personnel should undergo professional training, be proficient in the use and maintenance of the equipment, and possess the ability to diagnose common faults. Processing capacity.

4.1.4 When operating manually, there should be no fewer than two installers, and their respective responsibilities should be clearly defined so that they can cooperate with each other to complete the work.