

ICS 49.020
CCS V 20



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

GB/T 47587-2026

**Technical specifications for 1 550 MPa nickel-based alloys MJ
threaded bolts for aerospace**

航空航天用1550MPa镍基合金MJ螺纹螺栓技术规范
(English Translation)

Issued on: May 25, 2026

Implemented on: December 1, 2026

Issued by: State Administration for Market Regulation

Table of Contents

Preface	
1 Scope	
2 Normative References	
3 Terms and Definitions	
4 Quality Assurance	3.
4.1 General Rules	
4.2 Identification and Testing Conditions	
4.3 Quality Consistency Inspection Conditions	
4.4 Use of Statistical Process Control (SPC)	
5 Requirements	
Appendix A (Normative) Passivation Treatment	
A.1 Preprocessing	
A.2 Passivation	
A.3 Wash	
A.4 Final Surface	
Appendix B (Informative) Cross-sectional areas and formulas for tensile, fatigue, and stress fracture loads	
B.1 Cross-sectional area	
B.2 Formula	
Appendix C (Informative) Cross-sectional area and formula 23 for double shear load	
C.1 Cross-sectional area (single section)	
C.2 Formula	
References	

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 is modified to adopt ISO 9154:2016 "Aerospace 1550MPa Nickel-Based Alloy MJ Threaded Bolt Procurement Specification".

The technical differences between this document and ISO 9154:2016, and the reasons

therefor, are as follows.

---The scope of application has been revised (see Chapter 1), and the scope of application of this document has been revised in accordance with the requirements of GB/T 1.1-2020;

---The terminology has been changed from "batch" to "production batch" (see 3.1) to better suit my country's technological conditions and increase operability;

---The number of quality system certification bodies has been increased (see 4.1.1) to adapt to my country's technical conditions and increase operability;

---The number of bolts randomly selected from an inspection lot (see 4.2) has been changed to be consistent with the sample size in Table 2, to suit my needs.

Improve the country's technical conditions and increase operability;

---The usage requirements for statistical process control have been revised (see 4.4) to adapt to my country's technical conditions and increase operability;

---ISO 4288 (see 5.3.6) has been replaced with the normatively referenced GB/T 10610 to adapt to my country's technical conditions and increase operability.

Actual nature;

---The inspection and testing methods for passivation treatment have been modified (see 5.3.7) to adapt to my country's technical conditions and increase operability;

---ISO 9227 (see 5.3.7 and 5.4.7) has been replaced with the normatively referenced GB/T 10125 to adapt to my country's technical conditions and increase...

Increase operability;

---Tensile load requirements have been added (see 5.4.1) to adapt to my country's technical conditions and increase operability;

---ISO 6892-1 (see 5.4.1) has been replaced with the normatively referenced GB/T 228.1 to adapt to my country's technical conditions and increase operability.

Actual nature;

---The testing and inspection methods for hardness have been modified (see 5.4.4) to adapt to my country's technical conditions and increase operability;

---ISO 6508-1 and ISO 6507-1 have been replaced by the normatively referenced GB/T 230.1 and GB/T 4340.1 respectively (see 5.4.4), in order to Adapt to my country's technological conditions and increase operability;

---The requirements for grain flow lines in threaded areas have been increased, and the inspection and testing methods for grain flow lines in threaded areas have been modified (see 5.5.2) to better suit [the requirements].

To improve operability and suitability for my country's technological conditions;

---ISO 3452-1 (see 5.5.4) has been replaced with the normatively referenced GB/T 18851.1 to adapt to my country's technical conditions and increase compliance.

Operability;

---Added labeling requirements (see 5.7.2) to adapt to my country's technical conditions and increase operability;

---ISO 2859-1 has been replaced with the normatively referenced GB/T 2828.1-2012 (see Table 4) to adapt to my country's technical conditions and increase...

Increase operability.

The following editorial changes have been made to this document.

---To align with existing standards, the standard name has been changed to "Technology of 1550MPa Nickel-Based Alloy MJ Threaded Bolts for Aerospace Use".

specification";

---The relevant references GB/T 17989.1, GB/T 17989.2, GB/T 17989.3, and GB/T 43924.2 have been replaced respectively.

ISO 7870-1, ISO 7870-2, ISO 7870-3 and ISO 5855-2;

---The informative reference standard EN9100 has been deleted, and the informative reference standard GB/T 19001 has been added (see 4.1.1).

ISO 9154:2016, 4.1.1);

---Introduction phrases for tables and formulas have been added (see Chapter 5, B.2.1, B.2.2);

---The technical errata in Table 6 has been corrected, and rows with identical and adjacent content have been deleted;

---The technical errata in Table 7 has been corrected; ">=3200" in the batch number column has been changed to ">=3201".

---The technical error in Figure 6 has been corrected, changing "unacceptable hairline textures and folds" to "acceptable hairline textures and folds";

---The technical errata in Figure 8 has been corrected. The phrase "difference between actual major diameter and minimum major diameter" in the index number description has been changed to "actual major diameter and..." "Half of the difference in the smallest major diameter."

---The list of references has been changed.

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 and is under the jurisdiction of the National Aircraft Standardization Technical Committee (SAC/TC435).

1 Scope

This document specifies the characteristics and quality assurance requirements for 1550MPa nickel-based alloy MJ threaded bolts used in aerospace applications.

This document applies to the design, manufacture and acceptance of 1550MPa nickel-based alloy MJ threaded bolts (hereinafter referred to as "bolts").

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 228.1 Metallic materials-Tensile testing-Part 1: Tests at room temperature (GB/T 228.1-2021, ISO 6892-1) 2019, MOD) GB/T 230.1 Metallic materials-Rockwell hardness test-Part 1: Test methods (GB/T 230.1-2018, ISO 6508-1.

2016, MOD)

GB/T 2828.1-2012 Sampling Procedures for Inspection by Attributes - Part 1: Lot-by-lot Inspection Sampling Indexed by Acceptable Quality Limit (AQL) Plan (ISO 2859-1:1999, IDT) GB/T 4340.1 Metallic materials - Vickers hardness test - Part 1: Test methods (GB/T 4340.1-2024, ISO 6507-1:2023, MOD) GB/T 10125 Corrosion test in artificial atmosphere - Salt spray test (GB/T 10125-2021, ISO 9227:2017, MOD) GB/T 10610 Product Geometric Specification (GPS) - Rules and methods for evaluating surface structure using the surface structure profile method (GB/T 10610-2009, ISO 4288:1996, IDT) GB/T 18851.1 Nondestructive testing-Penetrating-Part 1: General principles (GB/T 18851.1-2024, ISO 3452-1.

2021, IDT)

ISO 7961 Aerospace Bolts Test Methods