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

GB/T 46101-2025

**High strength bihexagonal head bolts with MJ threads for
aerospace**

航空航天用MJ螺纹十二角头高强度螺栓

(English Translation)

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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 is modified to adopt ISO 3186:2008 "Aerospace bolts, large double hex head, normal shank, short or medium length MJ thread, metal".

Material, coated or uncoated, strength grade 1250MPa to 1800MPa, dimensions.

This document includes a new Chapter 3, "Terminology and Definitions".

The technical differences between this document and ISO 3186:2008, and the reasons therefor, are as follows.

---The surface roughness of the bolts has been increased (see Figure 1). Roughness is a necessary factor in bolt manufacturing; increasing surface roughness allows for better...

Provide good guidance for bolt manufacturing;

--- The L3±0.3 and L5 (see Figure 1) have been removed, which better reflects the actual usage in China;

---The normatively referenced GB/T 1800.2-2020 has replaced ISO 286-2 (see Table 1) to comply with my country's technical requirements;

---The normatively referenced GB/T 43924.2-2024 has replaced ISO 5855-2 (see Table 1) to comply with my country's technical requirements;

---The tolerance for the fillet radius at the bottom of the head has been modified (see Table 1) to better suit actual domestic usage.

---Increased tolerance for the P dimension of the head fuse hole position (see Table 1) provides better guidance for bolt manufacturing;

---The statement "tight tolerance standard rods use thermosetting organic matrix coatings" (see footnote b of Table 1 in ISO 3186:2008) has been deleted.

It conforms to domestic expression habits.

The following editorial changes have been made to this document.

---To align with existing standards, the standard name has been changed to "Aerospace MJ Threaded Dodecagonal Head High-Strength Bolts";

---The presentation of the structure diagram has been modified (see Figure 1) to better align with domestic industry drawing practices;

---The representation of letters in the structural dimensions (see Figure 1 and Table 1) and the order of letters in the table (see Table 1) have been modified to better conform to national standards.

Industry-specific labeling conventions.

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 Aviation Industry Corporation of China (AVIC).

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

1 Scope

This document specifies the structural and dimensional requirements for MJ thread twelve-head high-strength bolts (hereinafter referred to as bolts) for aerospace applications.

This document applies to the design of MJ thread twelve-head high-strength bolts for aerospace applications.

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 1800.2-2020 Product Geometric Specification (GPS) - Limits and Fits - Part 2: Standard Tolerance Grades and Hole and Shaft Pole Deviation Limit Table (ISO 286-2:1988, MOD) GB/T 43924.2-2024 Aerospace MJ Threads Part 2: Bolts and Nuts (ISO 5855-2:1999, MOD) ISO 3353-1 Aerospace Lead and Runout - Part 1: Rolled External

Threads ISO 4095 Aerospace-Bihexagonal Drives Metric Series ISO 7913
Aerospace-Metric Bolts and Screws - Tolerances for Form and Position

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4 Structure and Dimensions

The structure and dimensions of the bolts shall conform to the specifications in Figure 1 and Table 1.

The dimensions and tolerances are for the state of the part surface after coating and before lubrication.

Unless otherwise specified, the shape and position tolerances of bolts shall conform to the requirements of ISO 7913.