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

GB/T 5782-2025

Replacing GB/T 5782-2016

Fasteners-Hexagon head bolts

紧固件 六角头螺栓

(English Translation)

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Table of Contents

Foreword	2
1 Scope	4
2 Normative references	5
3 Terms and definitions	6
4 Type and dimensions	6
5 Technical requirements	24
6 Marking and labelling	25
7 Designation	26
Annex A (normative) Dimensions of product grade B bolts from M1.6 to M14	26
Bibliography	31

Foreword

This document has been drafted in accordance with the provisions of GB/T 1.1-2020 "Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents".

This document replaces GB/T 5782-2016 "Hexagon head bolts". In addition to structural adjustments and editorial changes, the following main technical changes have been made with respect to GB/T 5782-2016:

- a) the M7 size has been added (see Table 2);
- b) $d_{w,min}$ for $d \leq M5$ has been changed from $s_{min} - IT16$ to $s_{min} - IT15$, in order to obtain a larger bearing area and thereby reduce the contact pressure (see Table 1 and Table 2; Table 1 of the 2016 edition);
- c) rules for the minimum and maximum standard lengths have been added, and the minimum and maximum standard lengths have been adjusted accordingly (see Figure 1, Table 1 to Table 6, Table A.1 and Table A.2);
- d) property classes 4.8 and 12.9/12.9 for steel bolts have been added (see Table 7);
- e) stainless steel bolt groups D4 and D6 and property class 80 have been added (see Table 7);
- f) property class 9.8 and non-ferrous metal bolts have been deleted (see Table 3 of the 2016 edition);
- g) the technical requirement that hot dip galvanizing be in accordance with GB/T 5267.3

has been added (see Table 7);

h) marking and labelling have been added (see Chapter 6).

This document has been modified in relation to ISO 4014:2022 "Fasteners - Hexagon head bolts - Product grades A and B".

The technical differences between this document and ISO 4014:2022 and their reasons are as follows:

- the normatively referenced GB/T 5276 has been used to replace ISO 225, in order to adapt to the technical conditions of China (see Chapter 4);
- the normatively referenced GB/T 2 has been used to replace ISO 4753, in order to adapt to the technical conditions of China (see Figure 1);
- the normatively referenced GB/T 3106 has been used to replace ISO 888, in order to adapt to the technical conditions of China (see Table 4 to Table 6);
- the normatively referenced GB/T 16938 has been used to replace ISO 8992, in order to adapt to the technical conditions of China (see Table 7);
- the normatively referenced GB/T 197 has been used to replace ISO 965-1, in order to adapt to the technical conditions of China (see Table 7);
- the normatively referenced GB/T 3098.1 has been used to replace ISO 898-1, in order to adapt to the technical conditions of China (see Table 7, Chapter 6 and Chapter 7);
- the normatively referenced GB/T 3098.6 has been used to replace ISO 3506-1, in order to adapt to the technical conditions of China (see Chapter 6 and Chapter 7);
- the normatively referenced GB/T 3103.1 has been used to replace ISO 4759-1, in order to adapt to the technical conditions of China (see Table 7);
- the normatively referenced GB/T 5267.1 has been used to replace ISO 4042, in order to adapt to the technical conditions of China (see Table 7);
- the normatively referenced GB/T 5267.2 has been used to replace ISO 10683, in order to adapt to the technical conditions of China (see Table 7);
- the normatively referenced GB/T 5267.3 has been used to replace ISO 10684, in order to adapt to the technical conditions of China (see Table 7);
- the normatively referenced GB/T 5779.1 has been used to replace ISO 6157-1, in order to adapt to the technical conditions of China (see Table 7);
- the normatively referenced GB/T 5779.3 has been used to replace ISO 6157-3, in order to adapt to the technical conditions of China (see Table 7);
- the normatively referenced GB/T 90.1 has been used to replace ISO 3269, in order to

adapt to the technical conditions of China (see Table 7);

- the normatively referenced GB/T 3099.4 has been used to replace ISO 1891-4, in order to adapt to the technical conditions of China (see 6.2);
- the normatively referenced GB/T 1237 has been used to replace ISO 8991, in order to adapt to the technical conditions of China (see 7.1);
- the normative references GB/T 3098.23 and GB/T 90.2 have been added (see Table 7), in order to conform to the basic fastener standards of China;
- the technical requirements for property class 8.8 and 10.9 bolts with $d > M39$ are in accordance with GB/T 3098.23 (see Table 7), in order to conform to the requirements of the Chinese standards for the mechanical properties of large-size fasteners;
- packaging technical requirements have been added (see Table 7), in order to conform to the basic fastener standards of China;
- the designation example has been changed to a simplified designation example (see 7.2), in order to conform to the provisions of GB/T 1237.

The following editorial changes have also been made in this document:

- the title of the standard has been changed to "Fasteners - Hexagon head bolts";
- ISO 3506-5, ISO 3506-6, ISO 16048, ISO 4017 and ISO/TR 20491 have been replaced by the informatively referenced GB/T 3098.24, GB/T 3098.25, GB/T 5267.4, GB/T 5783 and GB/Z 41117;
- the bibliography has been changed.

Attention is drawn to the possibility that some of the contents of this document may involve patents. The issuing body of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Fasteners of Standardization Administration of China (SAC/TC 85).

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Anhui Changjiang Fasteners Co., Ltd., Ningbo Dazhi Machinery Technology Co., Ltd., Pengchi Hardware Products (Kunshan) Co., Ltd., Quzhou Tianli Fasteners Co., Ltd., Dongtai Zoubiao Stainless Steel Co., Ltd., Zhejiang Guosheng Automobile Technology Co., Ltd., Zhejiang Ruizhao Technology Co., Ltd., Zhuzhou Hanjie Aviation Technology Co., Ltd., Sichuan Aoxin Fasteners Manufacturing Co., Ltd., Jingjiang Feitian Fasteners Manufacturing Co., Ltd.

This document shall be interpreted by the National Technical Committee on Fasteners of Standardization Administration of China.

The successive versions of this document and the documents it replaces have been published as follows:

- first published in 1958 as GB/T 30-1958, first revised in 1966, second revised in 1976;
- published in 1986 as GB/T 5782-1986, which partially revised GB/T 30-1976 "Hexagon head bolts", first revised in 2000, second revised in 2016;
- this is the third revision.

1 Scope

This document specifies the type and dimensions, technical requirements, marking and labelling, and designation of hexagon head bolts of product grades A and B.

This document is applicable to hexagon head bolts (hereinafter referred to as "bolts") made of steel and stainless steel, with thread specifications of M1.6 to M64, coarse pitch thread, property classes of 4.8, 5.6, 8.8, 10.9, 12.9/12.9, A2-50, A2-70, A4-50, A4-70, A4-80, D4-70, D4-80, D6-70, D6-80, and product grades A and B.

2 Normative references

The contents of the following documents constitute indispensable provisions of this document through normative reference in the text. Among them, for dated referenced documents, only the version corresponding to that date is applicable to this document; for undated referenced documents, the latest version (including all amendments) is applicable to this document.

GB/T 2 Fasteners - Ends of parts with external metric ISO thread (GB/T 2-2016, ISO 4753:2011, MOD) · GB/T 90.1 Fasteners - Acceptance inspection (GB/T 90.1-2023, ISO 3269:2019, MOD) · GB/T 90.2 Fasteners - Marking and packaging · GB/T 197 General purpose metric screw threads - Tolerances (GB/T 197-2018, ISO 965-1:2013, MOD) · GB/T 1237 Designation system for fasteners (GB/T 1237-2000, eqv ISO 8991:1986) · GB/T 3098.1 Mechanical properties of fasteners - Bolts, screws and studs (GB/T 3098.1-2010, ISO 898-1:2009, MOD) · GB/T 3098.6 Mechanical properties of fasteners - Stainless steel bolts, screws and studs (GB/T 3098.6-2023, ISO 3506-1:2020, MOD) · GB/T 3098.23