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

GB/T 5781-2025

**Fasteners - Hexagon head bolts - Full thread - Product grade C
(English Translation)**

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Foreword

This document was 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 5781-2016 Hexagon head bolts - Full thread - Product grade C. Compared with GB/T 5781-2016, apart from structural adjustments and editorial changes, the main technical changes are as follows.

- a) The permitted head shapes and head indentation types for manufacturing have been added (Figures 1 and 2).
- b) The M7 size has been added (see Table 1).
- c) The $d_{w,min}$ value of M5 has been changed from $s_{min-IT16}$ to $s_{min-IT15}$ (for hexagon head bolts of product grades A and B) to obtain a larger bearing area, thereby reducing contact pressure (see Table 1; see Table 1 of the 2016 edition).
- d) Rules for the shortest and longest standard lengths have been added, and the shortest and longest standard lengths have been adjusted accordingly (see Figure 1; see Table 1~Table 3). The longest standard length has been changed to 200 mm (longer lengths are subject to supply and demand agreements) (see

Table 1~Table 3; see Table 1 and Table 2 of the 2016 edition).

e) Surface treatment options have been added; hot-dip galvanizing technology requirements are in accordance with GB/T 5267.3 (see Table 4).

f) Surface defect specifications have been added, and surface defects are in accordance with GB/T 5779.1 (see Table 4).

g) The marking and labeling have been added (see Chapter 6).

This document is modified in relation to ISO 4018:2022 Fasteners - Hexagon head screws - Product grades C.

The technical differences between this document and ISO 4018:2022, and the reasons therefor, are as follows.

-- The statement in ISO 4018, "If in certain cases other specifications are requested,... options from ISO 888 or ISO 4753," (Chapter 1), has been deleted; this is not part of the content specified in this document.

-- ISO 4753 has been replaced with the normative reference GB/T 2 to adapt to China's technical conditions (see Figure 1).

Fasteners - Hexagon head bolts - Full thread - Product grade

1 Scope

This document specifies the type, dimensions, technical requirements, marking, labeling, and designation for fully threaded hexagon head bolts of product grade C.

This document applies to steel hexagon head bolts (hereinafter referred to as "bolts") with thread sizes of M5 to M64, coarse threads, property classes of 4.6 and 4.8, and product grade of C.

2 Normative references

The provisions of the following documents constitute the essential clauses of this document through normative references in this text. Among them, for any dated reference, only the version corresponding to that date applies to this document; for any undated reference, the latest version (including all amendments) applies to this document.

GB/T 2 Fasteners - Ends of parts with external thread (GB/T 2-2016, ISO 4753.2011, MOD)

GB/T 90.1 Fasteners - Acceptance inspection (GB/T 90.1-2023, ISO 3269.2019, IDT) [Translator's note. should be "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 3099.4 Terminology of fasteners - Control, inspection, delivery, acceptance and quality (GB/T 3099.4-2021, ISO 1891-4.2018, MOD)

GB/T 3103.1 Tolerances for fasteners--Bolts, screws, studs and nuts (GB/T 3103.1-2002, idt ISO 4759-1.2000)

GB/T 3106 Fasteners - Bolts, screws and studs - Nominal lengths and thread lengths (GB/T 3106-2016, ISO 888.2012, MOD)

GB/T 5267.1 Fasteners - Electroplate coating (GB/T 5267.1-2023, ISO 4042.2022, MOD)

GB/T 5267.2 Fasteners - Non-electrolytically applied zinc flake coatings (GB/T 5267.2-2021, ISO 10683.2018, MOD)

GB/T 5267.3 Fasteners - Hot dip galvanized coatings (GB/T 5267.3-2008, ISO 10684.2004, IDT)

GB/T 5276 Fasteners - Bolts, screws, studs and nuts - Symbols and descriptions of dimensions (GB/T 5276-2015, ISO 225.2010, MOD)

GB/T 5779.1 Fasteners - Surface discontinuities - Bolts, screws and studs for general requirements (GB/T 5779.1-2000, idt ISO 6157-1.1988)

GB/T 16938 Fasteners - General requirements for bolts, screws, studs and nuts

(GB/T 16938-2008, ISO 8992.2005, IDT)

3 Terms and definitions

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

4 Types and dimensions

The types of bolts shall be as shown in Figures 1 and 2, and the dimensions shall be as shown in Table 1~Table 3.

Symbols and descriptions of dimensions shall conform to GB/T 5276.

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