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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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GB/T 5781-2016

Replacing GB/T 5781-2000

Hexagon head bolts - Full thread - Product grade C

(ISO 4018:2011, Hexagon head screws - Product grade C, MOD)

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Foreword

This Standard is one of one of the national standards of "Hexagon head bolts".
This series of standards include:

- GB/T 27, *Hexagon fit shank bolts*
- GB/T 28, *Hexagon fit shank bolts with split pin hole on shank*
- GB/T 29.1, *Hexagon bolts with slot on head - Product grade A and B*
- GB/T 29.2, *Hexagon bolts with cross recess on head*
- GB/T 31.1, *Hexagon bolts with split pin hole on shank - Product grade A and B*
- GB/T 31.2, *Hexagon bolts with split pin hole on shank - Reduced shank - Product grade B*
- GB/T 31.3, *Hexagon bolts with split pin hole on shank - Fine pitch thread - Product grade A and B*
- GB/T 5780, *Hexagon Head Bolts - Product grade C*
- GB/T 5781, *Hexagon head bolts - Full thread - Product grade C*
- GB/T 5782, *Hexagon Head Bolts*
- GB/T 5783, *Hexagon Head Bolts - Full Thread*
- GB/T 5784, *Hexagon head bolts; Reduced shank - Product grade B*
- GB/T 5785, *Hexagon head bolts with fine pitch thread*
- GB/T 5786, *Hexagon head bolts with fine pitch thread - Full thread*

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard replaces GB/T 5781-2000 *Hexagon head bolts - Full thread - Product grade C*. Compared with GB/T 5781-2000, the main technical modifications are as follows:

- deleted "if other technical requirements are required..., select between GB/T 3098.1 and GB/T 3103.1" (Clause 1 of Edition 2000);
- uniformed thread references as GB/T 193, GB/T 9145 (Clause 2);

- deleted that the type of pocket allowed to be manufactured is selected by the manufacturer (Figure 1);
- deleted grade 3.6 (Table 3);
- added that steel bolts non-electrolytic zinc coating technical requirements are according to GB/T 5267.2 (Table 3).

This Standard uses redrafting method to modify and adopt ISO 4018:2011 *Hexagon head screws -- Product grade C* (English version).

The technical differences as well as reasons between this Standard and ISO 4018:2011 are as follows:

- deleted the provisions of ISO 4018 “for other technical requirements, select between ISO 965-1 and ISO 4759-1” (clause 1) because it does not belong to the content specified in this Standard;
- in normative references, used China national standards to replace the International standards (Clause 2); added GB/T 5780 (Clause 1), GB/T 90.2 (Table 3), GB/T 193 (Table 3), GB/T 9145 (Table 3) and GB/T 1237 (5.1) as references; deleted ISO 724, ISO 965-1 as references so as to be in line with China's basic standards for fasteners;
- added packaging technical requirements (Table 3) so as to be in line with China's basic standards for fasteners;
- modified the marking example as simplified marking example (5.2) so as to comply with the provisions of GB/T 1237.

This Standard also made the following editorial modifications:

- modified the standard's name;
- deleted the Bibliography provided by ISO 4018.

This Standard was proposed by China Machinery Industry Federation.

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

Main drafting organization of this Standard: China Machine Productivity Promotion Center.

The drafting organizations of this Standard: Zhejiang Haili Co., Ltd., Wenzhou Shun Tak Power Accessories Co., Ltd.

This Standard shall be interpreted by National Fastener Standardization Technical Committee Secretariat.

Hexagon head bolts - Full thread - Product grade C

1 Scope

This Standard specifies the type sizes, technical conditions and marks of grade C of full thread hexagon head bolts.

This Standard is applicable to hexagon head bolts of which thread sizes are M5 ~ M64, full thread, performance grades are 4.6 and 4.8, product grade is C.

NOTE In addition that this product is made as full thread, the rest are same with GB/T 5780.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 90.1, *Fasteners - Acceptance inspection* (GB/T 90.1-2002, ISO 3269:2000, IDT)

GB/T 90.2, *Fasteners - Marking and packaging*

GB/T 193, *Common thread - Diameter and pitch series* (GB/T 193-2003, ISO 261:1998, 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 3103.1, *Essential oils and aromatic extracts - Determination of residual benzene content* (GB/T 3103.1-2002, idt ISO 4759-1:2000)

GB/T 5267.1, *Fasteners - Electroplated Coatings* (GB/T 5267.1-2002, ISO 4042:1999, IDT)

GB/T 5267.2, *Fasteners - Non-electrolytically applied zinc flake coatings* (GB/T 5267.2-2002, ISO 10683:2000, 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 5780, *Hexagon Head Bolts - Product Grade C* (GB/T 5780-2016, ISO 4016:2011, MOD)

GB/T 9145, *General purpose metric screw threads - Limits of sizes for the screw threads of medium quality and preferable plan* (GB/T 9145-2003, ISO 965-2:1998, MOD)

GB/T 16938, *Fasteners - General requirements for bolts screws studs and nuts* (GB/T 16938-2008, ISO 8992:2005, IDT)

3 Terms and definitions

See Figure 1, Table 1 and Table 2 for type sizes of bolts.

The size codes and markings shall comply with GB/T 5276.

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Contact: Wayne Zheng, Sales@ChineseStandard.net

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