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GB/T 5785-2016

Replacing GB/T 5785-2000

Hexagon Head Bolts – Fine Pitch Thread

(ISO 8765:2011, Hexagon Head Bolts with

Metric Fine Pitch Thread – Product Grades A and B, MOD)

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Foreword

This Standard is one of the serial standards of “Hexagon Head Bolts”; such serial standards include the following ones:

- GB/T 27 Hexagon Head Fit Shank Bolts;
- GB/T 28 Hexagon Fit Shank Bolts with Split Pin Hole;
- GB/T 29.1 Hexagon Bolts with Slot on Head;
- GB/T 29.2 Hexagon Bolts with Cross Recess on Head;
- GB/T 31.1 Hexagon Bolts with Split Pin hole on Shank;
- 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 32.1 Hexagon Bolts with Wire Holes on Head – Product Grade A and B;
- GB/T 32.2 Hexagon Bolts with Wire Holes on Head – Reduced Shank – Product Grade B;
- GB/T 32.3 Hexagon Bolts with Wire Holes on head – 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/T5785 Hexagon Head Bolts – Fine Pitch Thread;
- GB/T 5786 Hexagon Head Bolts – Fine Pitch Thread – Full Thread.

This Standard was drafted as per the rules specified in GB/T 1.1-2009.

This Standard replaced GB/T 5785-2000 *Hexagon Head Bolts with Fine Pitch Thread*. Compared with GB/T 5785-2000, this Standard has the major technical changes as follows:

- Delete “if other technical requirements are needed, ... the selection of GB/T 3098.6 and GB/T 3103.1)” (Clause 1 of 2000 Edition);
- Unify the reference thread standards into GB/T 193, GB/T 9145 (Clause 2 of this Edition);
- Change “P-coarse thread pitch” (2000 Edition) into “P-pitch” (Table 1, Table 2 NOTE of this Edition);
- Specify the reference standards on the mechanical property of the non-ferrous metal products: GB/T 3098.10 (Table 3 of this Edition);
- Only specify the surface defects of steel products: GB/T 5779.1 (Table 3 of this Edition);
- Increase the non-treatment and oxidation removal of the steel bolt surface (Table 3 of this Edition);
- Increase the non-electrolytically applied zinc flake coatings technical requirements for steel bolt as per GB/T 5267.2 (Table 3 of this Edition);
- Increase the passivation technical requirements for stainless steel bolt as per GB/T 5267.4 (Table 3 of this Edition);
- The surface treatment marks only allow to omit: surface non-treatment (Sub-clause 5.2 of this Edition).

This Standard adopts re-drafting method to modify and use ISO 8765:2011 *Hexagon Head Bolts with Metric Fine Pitch Thread – Product Grade A and B* (English Edition).

The technical differences and caused between this Standard and ISO 8765:2011 are as follows:

- Delete the provisions of ISO 8765: “if other technical requirements are needed, ...the selection in ISO 4753 and ISO 4759-1” (Clause 1 of this Edition), which doesn’t belong to the contents of this Standard;
- In the normative references, use China’s standards to replace the international standards (Clause 2); increase the reference of GB/T 5782 (Clause 1), GB/T 5786 (Table 2), GB/T 90.2 (Table 3), GB/T 9145 (Table 3), GB/T 5267.4 (Table 3) and GB/T 1237 (Sub-clause 5.1); and delete the reference of ISO 724, ISO 965-1; so that conform to China’s basic fastener standards;
- Increase the passivation technical requirements for the stainless-steel bolts (Table 3 of this Edition), expand the product usage range;
- Increase the package technical requirements (Table 3), so that conform to China’s basic fastener standards;

Hexagon Head Bolts – Fine Pitch Thread

1 Scope

This Standard specifies the type dimension, technical conditions and mark of the hexagon head bolts with fine pitch thread.

This Standard is applicable to the hexagon head bolts with thread nominal diameter of $d=8\text{mm}\sim 64\text{mm}$; fine pitch thread; property class of 5.6, 8.8, 10.9, A2-70, A4-70, A2-50, A4-50, CU2, CU3 and AL4; product grade of Grade A and B. Grade A is applied to the bolts with $d=8\text{mm}\sim 24\text{mm}$ and $l\leq 10d$ or $l\leq 150\text{mm}$ (take the less value); Grade B is applied to the bolts with $d>24\text{mm}$ or $l>10d$ or $l>150\text{mm}$ (take the less value).

The bolts with coarse pitch thread stipulated in GB/T 5782 shall be preferably be used.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB/T 2 Fasteners – Ends of Parts with External Thread

GB/T 90.1 Fasteners – Acceptance Inspection (GB/T 90.1-2002, idt ISO 3269:2000)

GB/T 90.2 Fasteners – Marking and Packaging

GB/T 193 General Purpose Screw Threads – Diameters and Pitches (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 3098.6 Mechanical Properties of Fasteners- Stainless Steel Bolts, Screws and Studs (GB/T 3098.6-2014, ISO 3506-1:2009, MOD)

GB/T 3098.10 Mechanical Properties of Fasteners - Bolts, Screws, Studs and Nuts

Made of Non-Ferrous Metals (GB/T 3098.10-1993, eqv ISO 8839:1986)

GB/T 3103.1 Tolerances for Fasteners – Bolts, Screws and Nuts (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 5267.4 Passivation of Corrosion-Resistant Stainless-Steel Fasteners (GB/T 5267.4-2009, ISO 16048:2003, 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 Fastener – Surface Discontinues – Bolts, Screws and Studs for General Requirements (GB/T 5779.1-2000, idt ISO 6157-1:1988)

GB/T 5782 Hexagon Head Bolts (GB/T 5782-2016, ISO 4014:2011, MOD)

GB/T 5786 Hexagon Head Bolts with Fine Pitch Thread – Full Thread (GB/T 5786-2016, ISO 8676:2011, 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 Dimension

The type dimension of bolt can refer to Figure 1, Table1 and Table2.

The dimension code and mark shall conform to GB/T 5276.

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Contact: Wayne Zheng, Sales@ChineseStandard.net

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