



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

GB/T 18230.2-2000

**Hexagon bolts for high-strength structural bolting with large
width across flats (short thread length) - Product grade C -
Property classes 8 - 8 and 10 - 9
(English Translation)**

Issued on: October 17, 2000

Implemented on: May 1, 2001

Issued by: the State Bureau of Quality Technical Supervision

Table of Contents

Foreword...	3
ISO Foreword...	4
1 Scope...	5
2 Normative references...	5
3 Dimensions...	7
4 Technical conditions and normative reference...	10
5 Galvanized fasteners shall be painted with lubricant agent...	10
6 Labeling...	10
7 Marking...	11
Annex A (Normative) Extreme dimension of 6az external thread...	12

Foreword

This Standard equivalently adopts international standard ISO 7412.1984 Hexagon bolts for high-strength structural bolting with large width across flats (short thread length) - Product grade C - Property classes 8.8 and 10.9.

This Standard specifies the specification for packaging technology which is not specified in ISO 7412 (Table 2).

ISO 7412 does not cite ISO 225 Fasteners - Bolts, Screws, Studs and Nuts - Symbols and Designations of Dimensions and ISO 8992 Fasteners - General Requirements for Bolts, Screws, Studs and Nuts. This Standard amends provisions (see notes in Chapter 3 and contents in Table 2) according to the latest ISO Fasteners Standard of the same kind (such as ISO 4014. 1999 Hexagon Bolts of Grades A and B).

This Standard adds the provision (Table 2) of sherardizing which is not specified in ISO 7412.

This Standard specifies the extreme dimension (Annex A) of 6az thread according to ISO965-4.1998 ISO general purpose metric system threads tolerance - part 4. hot-dip galvanized external threads limit size, the corresponding matched inner thread is tapped after hot dip, with the provision of inner thread tolerance zone is H or G.

Annex A and B are normative Annexes of this Standard.

This Standard was proposed by State Administration of Machinery Industry.

This Standard shall be administered by the National Fastener Standardization of Technical Committee.

Academy of Machinery Science and Technology is the responsible drafting organization of this Standard. Shanghai Jinma High Strength Fastener Co., Ltd, Shanghai High strength Bolts Plant, Shanghai Shenguang High strength Bolts Plant, Zhejiang Shaoxing High Strength Fastener Plant, and Hebei Ren County High strength Bolts Co., Ltd are the participating drafting organizations of this Standard.

ISO Foreword

ISO (International Standardization Organization) is a syndicate consisting of state standard group (members of ISO) across the world. The formulation of the international standard is made by all technical committees of ISO. Each member who is interested in projects of certain technical committee can participate in the committee. Governmental and non-governmental international organizations related with ISO can also take part in the job. ISO is closely related with IEC in terms of electro-technical normalization.

International standard draft adopted by technical committee shall be distributed to all member groups for voting. The official publication of international standards needs at least 75% votes by the member groups.

International standard ISO 7412 was formulated by ISO/TC 2 Fasteners Technical Committee.

National Standard of the People's Republic of China

Hexagon bolts for high-strength structural bolting with large width across flats (short thread length) -

Product grade C - Property classes 8. 8 and 10-9

eqv ISO7412.1984

1 Scope

This Standard specifies the hexagon bolts for structural bolting with large width across flats - thread specification is M12-M36, short length of thread, performance grades are

8.8 and 10.9; and the product grade is C.

If other technical requirements are required, it shall be selected from current standards (such as GB/T196, GB/T197, and GB /T3098.1).

The bolts specified in this Standard shall be matched with appropriate nuts (such as GB/T18230.3 or GB/T18230.4), so as to prevent connections from thread tripping due to over-twisting in high-level. 8.8s U1 and 10.9s U1 bolts can be used by negotiation of supplier and purchaser. The bolts must be matched with 6H hot dip galvanizing nuts, and the connections may cause thread tripping due to over-twisting.

Note: The satisfactory results can be achieved by making sure to correctly use the bolts. For the purpose of proper use, it is recommended to formulate bolt connections specifications.

2 Normative references

The provisions contained in the following standards become part of this Standard, through the reference of this Standard. At the time of publication of this Standard, the shown versions of these standards are valid. All standards are subject to revision, and all parties who use this Standard are encouraged to investigate the possibility of applying the newest version of these standards.

1 See Chapter 7.

GB/T 90-1985 Acceptance check, marking and packaging of fasteners (eqv ISO 3269. 1984)

GB/T 196-1981 Basic Size of Common thread (Diameter of 1~600 mm).

GB/T 197-1981 Tolerance and coordination of normal thread (Diameter of 1~355 mm).

GB/T 1237-2000 Marking method of fasteners (eqv ISO 8991.1986)

GB/T 3098.1-2000 Mechanical properties of fasteners - Bolts, screws and studs (idt ISO 898-1.1999)

GB/T 3103.1-1982 Tolerances for Fasteners Bolt, Screw and Nut (eqv ISO 4759-1.1978)

GB/T 3106 Bolts, screws and studs; Nominal lengths and thread lengths for general purpose bolts (eqv ISO 888. 1976)

GB/T 5267-1985 Electroplated Coating of Threaded Fastener

GB/T 5276-1985 Dimension number and label of fasteners, bolts, nail, double-screw bolt and

nut (eqv ISO 225.1983)

GB/T 13912-1992 Hot Dip Electroplated Coating Technical Requirements of Steel Products with Metal coating (neq ISO 1459.1973)

GB/T 16938-1997 General Technical Requirements for Fasteners, Bolts, Screws, Studs and Nuts (idt ISO 8992.1986)

GB/T 18230.3-2000 Hexagon nuts for high-strength structural bolting with large width across flats - Product grade B - Property classes 8 and 10 (eqv ISO 4775.1984)

GB/T 18230.4-2000 Hexagon nuts for structural bolting with large width across flats, style 1 - Product grade B - Property class 10 (eqv ISO 7414.1984)

GB/T 18230.5-2000 Plain washers for high-strength structural bolting hardened and tempered (neq ISO 7416.1984)

JB/T 5067-1999 Iron and steel parts zinc power impregnation

Note: The length between the crude ladder lines is the commodity specifications.

- 1) For hot-dip galvanized bolt it is the dimension before galvanization.
- 2) Due to the technical reasons, it is not optimal specification.
- 3) Specifications in the brackets shall not be used as far as possible.
- 4) P - thread pitch.
- 5) For the nominal length $I_{\text{Nominal}} \leq 100\text{mm}$.
- 6) For the nominal length $I_{\text{Nominal}} > 100\text{mm}$.
- 7) $d_{\text{wmax}} = s_{\text{actual}}$.
- 8) $l_{\text{gmax}} = I_{\text{Nominal}} - b_{\text{reference}}$; $l_{\text{smin}} = l_{\text{gmax}} - 3P$.

Annex B

(Normative)