

ICS 21.060.10

CCS J 13



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

GB/T 13-2013

Replacing GB/T 13-1988

Cup head nib bolts

圆头带榫螺栓

Issued on: June 9, 2013

Implemented on: March 1, 2014

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

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Foreword

GB/T 13-2013 was issued on 9 June 2013 by the General Administration of Quality Supervision, Inspection and Quarantine and the Standardization Administration of the People's Republic of China, and has been in force since 1 March 2014. It replaces GB/T 13-1988.

The document is a recommended national standard: the /T in the designation marks it as recommended rather than compulsory.

1 Scope

China's national standard for cup head nib bolts in sizes M6 to M24, product grade C. The nib is the point: a small square lug forged under the domed head that beds into the material or into a matching recess and stops the bolt turning while the nut is tightened. That single feature is what makes the bolt useful where only one side is reachable - the deck plates and body panels of vehicles and railway wagons, agricultural machinery, conveyor and elevator buckets, wooden structures - because a spanner is needed at one end only. It also gives a flush, snag-free outer surface, which matters where material slides over the joint or where a projecting head would catch. The standard specifies the dimensions of these bolts together with the technical conditions that go with them: thread tolerance, property class, product grade, surface treatment, acceptance and packaging, and the designation method with a worked example.

This standard specifies cup head nib bolts with thread sizes from M6 to M24 and product grade C.

2 Normative references

The following 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 all amendments, applies.

GB/T 2 Fasteners - Ends of parts with external metric ISO thread; GB/T 196 General purpose metric screw threads - Basic dimensions; GB/T 197 General purpose metric screw threads - Tolerances.

GB/T 90.1 Fasteners - Acceptance inspection; GB/T 90.2 Fasteners - Marking and packaging.

GB/T 1237 Designation system for fasteners; GB/T 5276 Fasteners - Bolts, screws, studs and nuts - Symbols and descriptions of dimensions.

GB/T 3098.1 Mechanical properties of fasteners - Bolts, screws and studs; GB/T 3103.1 Tolerances for fasteners - Bolts, screws, studs and nuts; GB/T 5267.1 Fasteners - Electroplated coatings; GB/T 16938 Fasteners - Bolts, screws, studs and nuts - General requirements.

3 Dimensions

The form and dimensions are given in Figure 1 and Table 1. The symbols and the method of indicating the dimensions conform to GB/T 5276. Figure 1 shows the domed head with the square nib beneath it, the head diameter and height, the nib width and its projection, the unthreaded shank, the thread length and the nominal length, together with the section through the head that shows how the nib sits. The diameter of the unthreaded part of the shank is approximately equal to the pitch diameter or the major diameter of the thread, and the end of the bolt is a rolled end in accordance with GB/T 2.

4 Technical conditions and referenced standards

The technical conditions and the referenced standards are given in Table 2. The material is steel, with the general technical conditions to GB/T 16938. The thread has tolerance class 8 g to GB/T 196 and GB/T 197. The mechanical properties are property classes 4.6 and 4.8 to GB/T 3098.1. The tolerances are product grade C except where clause 3 provides otherwise, to GB/T 3103.1. The surface is supplied untreated; where electroplated, the technical requirements are those of GB/T 5267.1, and any other surface treatment is subject to agreement between supplier and purchaser. Acceptance and packaging follow GB/T 90.1 and GB/T 90.2.

5 Designation

5.1 The method of designation is as specified in GB/T 1237.

5.2 Example: a cup head nib bolt with thread size M12, nominal length 80 mm, property class 4.8, no surface treatment and product grade C is designated: Bolt GB/T 13 M12 x 80.