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

中华人民共和国国家标准

GB/T 3098.2-2000

idt ISO 898-1: 1999

Replace GB/T 3098.2-1982

Mechanical Properties of Fasteners:

Nuts-Coarse Thread

紧固件机械性能-螺母粗牙-螺纹

Issued on September 26, 2000

Implemented on February 01, 2001

**Issued by General Administration of Quality Supervision, Inspection
and Quarantine of the People's Republic of China**

**Standardization Administration of the People's Republic of
China**

Contents

Foreword.....	1
ISO Foreword.....	1
1. Scope.....	1
2. Normative References	2
3. Symbolizing System.....	3
4. Material	4
5. Mechanical Property	5
6. Proof Load.....	8
7. Failure Load of Nut ($0.5D \leq \text{Nominal Height} < 0.8D$).....	10
8. Test Method.....	10
9. Marking (Symbolizing).....	12
Annex A.....	16

Foreword

The standard is identical to international standard ISO 898-2: 1992 "Mechanical Properties of Fasteners - Part 2: Nuts with Specified Proof Load Values - Coarse Thread".

Standard GB/T 3098, totally named as "Mechanical Properties of Fasteners", is consisted of following parts:

GB/T 3098.1 Mechanical Properties of Fasteners - Bolts, Screws and Studs

GB/T 3098.2 Mechanical Properties of Fasteners: Nuts - Coarse Thread

GB/T 3098.3 Mechanical Properties of Fasteners - Set Screws

GB/T 3098.4 Mechanical properties of fasteners-Nuts-Fine Pitch Thread

GB/T 3098.5-2000 Mechanical Properties of Fasteners: Tapping Screws

GB/T 3098.6-2000 Mechanical Properties of Fasteners: Bolts, Screws and Studs Made of Stainless-steel

GB/T 3098.7-2000 Mechanical Properties of Fasteners: Thread Rolling Screws

GB/T 3098.8-1992 Mechanical Properties of Fasteners: Components for Bolted Connections Made Mainly from Materials with a High Temperature Strength

GB/T 3098.9-1993 Mechanical Properties of Fasteners: Prevailing Torque Style Steel Hexagon Nuts

GB/T 3098.10-1993 Mechanical Properties of Fasteners: Bolts, screws, Studs and Nuts Made of Non-ferrous Metals

GB/T 3098.11-1995 Mechanical Properties of Fasteners: Self-drilling Tapping Screws

GB/T 3098.12-1996 Mechanical Properties of Fasteners: Cone Proof Load Test on Nuts

GB/T 3098.13-1996 Mechanical Properties of Fasteners: Torsional Test and Minimum Torques for Bolts and Screws with Nominal Diameters 1 mm to 10 mm

GB/T 3098.14-2000 Mechanical Properties of Fasteners: Widening Test on Nuts

GB/T 3098.15-2000 Mechanical Properties of Fasteners: Nuts Made of Stainless-steel

GB/T 3098.16-2000 Mechanical Properties of Fasteners: Setscrews Made of Stainless-steel

GB/T 3098.17-2000 Mechanical Properties of Fasteners: Preloading Test for the Detection of Hydrogen Embrittlement - Parallel Bearing Surface Method

The content in "Scope" of this standard is adjusted (ISO 898-2: 1992 is consistent with ISO 898-6: 1994), and consistent with that of GB/T 3098.4.

Annex B of ISO 89-2 is not adopted in this standard, but enlisted in Chapter 2 "Normative Reference" of this standard.

Over Standard GB/T 3098.1-1982, main revisions in this standard are as following:

A) Add "coarse thread" in the name of the standard;

B) Only specify the test mechanical property under the environmental temperature of 10 ~ 35°C. The mechanical/physical properties may be deferent in higher or lower temperature (Chapter 1);

C) "Minimum thread diameter" is canceled in the "applicable scope" (Chapter 1);

D) Add the field "screw nut" in Table 2, and the content "it is feasible that the stress of the bolt-nut combination (assemblies) is higher than the yield strength or the proof stress of bolt" in the note of the Table 2;

E) Cancel the Rockwell hardness number in the Table 5, add nut fields "heat treatment" condition and "style", and adjust the content of the notes in Table 5;

F) Adjust partial proof load values (Table 6),

G) Add Brinell-Rockwell-Vickers hardness conversion table (Section 8.2);

H) Add the test of surface imperfection (Section 8.3);

I) As for the products that must be marked with performance rate, Marking the trademark or identification mark of manufacturer is compulsory, and shall be provided as much as possible based on the technological feasibility. In any circumstance, packages shall be marked (Section 9.5).

This Standard replaces the standard GB/T3098.1-1982 from the implementation date.

Annex A hereto is suggestive.

The standard is proposed by State Bureau of Machine Building Industry.

This standard is under the jurisdiction of Technical Committee of Standardization for Fastener.

The standard is mainly drafted by China Academy of Machinery Science & Technology. And Xi'an Standard Part General Plant, Shanghai High Strength Bolt Plant, Shanghai Fastener and Welding Material Technical Institute, Beijing Standard Fasteners Industrial (Group) Company, Wuhan Automotive Standard Part Research Institute, Shanghai Jinma High Strength Fastener Co., Ltd. and Shenzhen Aero Fasteners MFG Co., Ltd. participate in drafting the standard.

State Technical Committee of Standardization for Fastener - Secretariat is responsible for the explanation of the standard.

ISO Foreword

ISO (International Organization for Standardization) is a worldwide combination of standardization groups (ISO member group). The establishment of international standards is usually achieved by technical committee of ISO. If a member group is interested in the project that other technical committee runs, this member group can join in this technical committee. ISO related governments and international non-government organizations can also participate in the task. ISO is closely connected with International Electrotechnical Commission (IEC) in electrotechnical standardization.

Draft international standard adopted by the technical committee is handed out to all member groups for voting. The official publications of international standards shall be approved by at 75% of member groups through voting.

International Standard ISO 898-2 is prepared by ISO/TC 2 Technical Committee for Fastener - SC 1 Fasteners Mechanical Properties Subcommittee.

In the second edition, the first edition (ISO 898-1: 1998) is revised and supplemented as technical revision.

The generic name of ISO 898 is "Mechanical Properties of Fasteners Made of Carbon Steel and Alloy Steel", and the standard herein is consisted of following parts:

- Part 1: Bolts, Screws and Studs
- Part 2: Nuts with Specified Proof Load Values - Coarse Thread
- Part 5: Set Screws and Similar Threaded Fasteners not under Tensile Stresses
- Part 6: Nuts with Specified Proof Load Values - Fine Pitch Thread
- Part 7: Torsional Test and Minimum Torques for Bolts and Screws with Nominal Diameters 1 mm to 10 mm

Annex A and Annex B hereto are suggestive.

Mechanical Properties of Fasteners:

Nuts-Coarse Thread

1. Scope

The standard specifies the mechanical property (performance) of nuts with specified proof load in the test under the environmental temperature 10~35°C.

It shall be noted by users that "the products, which meet requirements of the standard under the environmental temperature, may have different mechanical/physical properties under higher or lower temperature".

Nuts that the standard is applicable to:

Nominal diameter of screw thread $D < 39$ mm;

General purpose screw threads complying with GB/T 192;

Coarse thread diameter and pitch combination complying with GB/T 193;

Basic size complying with GB/T 196;

Tolerance and coordination complying with GB/T 197;

Products with special mechanical requirements;

Opposite side width complying with or equivalent to the requirements of GB/T 3104,

Nominal height $\geq 0.5D$;

Products made of carbon steel or alloy steel.

The standard is not applicable to nuts required with special performance, such as:

Locking performance (GB/T 3098.9);

Solderability;

Corrosion resistance (GB/T 3098.15);

Performance requirements under the working temperature higher than +300°C or lower than -50°C.

Notes:

1. Nuts made of free cutting steel shall not be used under the temperature higher than +250°C.

2. As for special products like nuts used for high strength bolt and hot-dip galvanizing bolt, the relative values is detailed in the product standard.

3. If the thread tolerance of matching parts is larger than 6H/6g, the release hazard will be increased.

4. If the tolerance is larger than 6H, the release strength shall be considered to be reduced, See Table 1.



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