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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

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**

紧固件机械性能 螺栓与螺钉的扭矩试验和破坏扭矩

公称直径 1 ~ 10 mm

(IDT ISO898-7:1992)

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Foreword

This standard is equivalent to the international standard ISO 898-7:1992 "Mechanical properties of fasteners - Part 7: Torsional test and minimum torques for bolts and screws with nominal diameters 1 mm to 10 mm".

The general title of GB 3098 is "Mechanical properties of fasteners", including the following parts:

- GB 3098.1-82 Mechanical properties of fasteners - Bolts, screws and studs
- GB 3098.2-82 Mechanical properties of fasteners - Nuts - Coarse thread
- GB 3098.3-82 Mechanical properties of fasteners - Set screws
- GB 3098.4-86 Mechanical properties of fasteners - Nuts with fine pitch thread
- GB 3098.5-85 Mechanical properties of fasteners - Tapping screws
- GB 3098.6-86 Mechanical properties of fasteners - Stainless steel bolts, screws and studs
- GB 3098.7-86 Mechanical properties of fasteners - Thread rolling screws
- GB/T 3098.8-92 Mechanical properties of fasteners - Components for belted connections made mainly from materials with a high temperature strength
- GB/T 3098.9-93 Mechanical properties of fasteners - Prevailing torque type steel hexagon nuts
- GB/T 3098.10-93 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 1mm to 10 mm

Appendix A of this standard is an informative appendix.

This standard was proposed by the Ministry of Machinery Industry of the People's Republic of China.

ISO Foreword

ISO (International Organization for Standardization) is a worldwide association of national standards bodies (ISO member bodies). The formulation of international standards is carried out through ISO technical committees. If each member group is interested in a project carried out by a certain technical committee, they can also participate in the committee. Governmental and non-governmental international organizations related to ISO can also participate in this work. ISO has a close relationship with the International Electrotechnical Commission (IEC) in terms of electrical standardization.

The draft international standard adopted by the technical committee is distributed to all member groups for voting. The official publication of international standards requires at least 75% of the member groups to vote for it.

The international standard ISO 898-7 was formulated by the ISO/TC2 Fastener Technical Committee and the SC1 Fastener Mechanical Performance Subcommittee.

The general title of ISO 898 is "Mechanical properties of fasteners" and includes the following parts:

- Part 1: Bolts, screws and studs
- Part 2: Coarse thread of nut with specified guaranteed load value
- Part 5: Set screws and similar threaded fasteners not subject to tensile stress
- Part 6: Nuts with specified guaranteed load value - Fine thread
- Part 7: Torque test and minimum torque of bolts and screws with nominal diameter 1 ~ 10 mm

Appendix A is an informative appendix.

Mechanical properties of fasteners - Torsional test and minimum torques for bolts and screws with nominal diameters 1 mm to 10 mm

1 Scope

This standard specifies the torque test and breaking torque values of bolts and screws with a nominal diameter of 1 ~ 10 mm and a performance level of 8.8 ~ 12.9 (GB 3098.1).

This standard applies to bolts and screws whose thread size is smaller than M3 and the minimum tensile load and guaranteed load are not specified in GB 3098.1, as well as the bolts and screws with a nominal diameter of 3 ~ 10 mm whose length is too short to carry out the tensile test.

The breaking torque does not apply to hexagon socket set screws.

2 Normative references

The clauses contained in the following standards constitute the clauses of this standard by being quoted in this standard. At the time of publication, the editions indicated were valid. All standards will be revised; all parties using this standard shall study the possibility of using the latest version of the following standard.

GB 3098.1-82 Mechanical properties of fasteners - Bolts, screws and studs

3 Torque test

3.1 Principle

Clamp the tested bolt or screw in the test device and measure its breaking torque.

3.2 Device (instrument)

3.2.1 Torque test device, as shown in Figure 1.

3.2.2 The indicated value of the torque meter shall not exceed five times the

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