

ICS 21.060.10
CCS J 13



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

GB/T 3098.7-2000

**Mechanical properties of fasteners. Thread rolling screws
(English Translation)**

Issued on: September 26, 2000

Implemented on: February 1, 2001

Issued by: The State Bureau of Quality and Technical Supervision

Table of Contents

Foreword...	3
ISO Foreword...	6
1 Scope...	7
2 Reference standards...	7
3 Materials...	8
4 Mechanical and working performance...	8
5 Test methods...	10
6 Torque wrenches...	14
7 Marking...	14

Foreword

This Standard is identical to the international standard ISO 7085:1999

"Mechanical and performance requirements of case hardened and tempered metric thread rolling screws".

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

- GB/T 3098.1-2000 Mechanical properties of fasteners - Bolts, screws and studs
- GB/T 3098.2-2000 Mechanical properties of fasteners - Nuts - Coarse thread
- GB/T 3098.3-2000 Mechanical properties of fasteners - Set screws
- GB/T 3098.4-2000 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 - Stainless steel bolts, screws and studs
- 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 type 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 from 1mm to 10mm
- 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 - Set screws 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

ISO 7085 does not specify the content of footnote 1) (Clause 1).

This Standard is a revised edition of GB/T 3098.7-1986. The main changes are as follows:

- a) Modify the standard name;

- b) Delete the mechanical property grades distinguished by materials and the material designations for reference (Table 1);
- c) ADD the provisions of "core hardness after retempering" (Table 2, subclauses 4.9 and 5.8);
- d) Delete the requirement of "anti-hydrogen embrittlement torque" and quote the requirements of GB/T 3098.17 (Table 2, subclauses 4.8 and 5.7);
- e) Adjust the provisions of "breaking torque" (Table 2, Table 3, subclauses **4.5 and 5.4**);

- f) ADD the requirement that "the minimum tempering temperature is 340 °C" (subclause 4.2);
- g) Adjust the "core hardness" index (subclause 4.3);
- h) INCREASE the angle of the ductility test to 7° (subclauses 4.6, 5.5 and Figure 4);
- i) CHANGE "tensile breaking load" to a reference value; and the test can only be carried out by agreement between the purchaser and the supplier (Table 3 and subclause 4.10);
- j) ADD the requirements of marking (Clause 7);

Mechanical properties of fasteners -
Thread rolling screws

1 Scope

This Standard specifies the technical requirements for case hardened and tempered thread rolling screws 1). Thread rolling screws according to this Standard can produce various general female threads, in the range from 2 mm ~ 12 mm nominal thread diameter, for use in electromechanical products. GB/T 3098.1 is not applicable to screws made according to this Standard.

2 Reference standards

The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. At the time of publication of this Standard, the editions indicated are valid. All standards are subject to revision. The parties who are using this Standard shall explore the possibility of using the latest edition of the following standards.

GB/T 197-1981 General purpose screw threads - Tolerances and fits for diameter from 1 to 355mm

GB/T 709-1988 Dimensions, shape, weight and tolerances for hot-rolled plates and sheets

GB/T 3098.2-2000 Mechanical properties of fasteners - Nuts - Coarse thread (idt ISO 898-2:1992)

GB/T 3098.17-2000 Mechanical properties of fasteners - Preloading test for the detection of hydrogen embrittlement - Parallel bearing surface method (idt ISO 15330:1999)

GB/T 4340.1-1999 Metallic materials - Vickers hardness test - Part 1: Test method (eqv ISO 6507-1:1997)

GB/T 5267-1985 Electroplated coatings on threaded fasteners

1) It includes thread forming screws with a thread shank of arc-shaped triangular cross-section in accordance with GB/T 6559.

.....