NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 3098.6-2023

Mechanical properties of fasteners - Stainless steel bolts, screws and studs

Issued on: May 23, 2023 **Implemented on: December 1, 2023**

Issued by: SAMR; SAC

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 "Directives for standardization - Part 1.Rules for the structure and drafting of standardizing documents".

This document is Part 6 of GB/T 3098 "Mechanical properties of fasteners". GB/T 3098 has published the following parts.

- GB/T 3098.1 Mechanical properties of fasteners - Bolts, screws and studs;
- GB/T 3098.2 Mechanical properties of fasteners - Nuts;
- GB/T 3098.3 Mechanical properties of fasteners - Set screws;
- GB/T 3098.5 Mechanical properties of fasteners - Tapping screws;
- GB/T 3098.6 Mechanical properties of fasteners - Stainless steel bolts, screws and studs;
- GB/T 3098.7 Mechanical properties of fasteners - Thread rolling screws;
- GB/T 3098.8 Mechanical properties of fasteners - Parts for bolted connections for use at temperatures from-200 °C ~ +700 °C
- GB/T 3098.9 Mechanical properties of fasteners - Prevailing torque type steel nuts;
- GB/T 3098.10 Mechanical properties of fasteners - Bolts, screws, studs and nuts made of non-ferrous metals;
- GB/T 3098.11 Mechanical properties of fasteners - Drilling screws with taping screw thread;
- GB/T 3098.12 Mechanical properties of fasteners - Cone proof load test on nuts;
- GB/T 3098.13 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 Mechanical properties of fasteners - Widening test on nuts;
- GB/T 3098.15 Mechanical properties of fasteners - Stainless steel nuts;

- GB/T 3098.16 Mechanical properties of fasteners - Stainless steel set screws;

- GB/T 3098.17 Mechanical properties of fasteners - Preloading test for the detection of hydrogen embrittlement-Parallel bearing surface method;

- GB/T 3098.18 Mechanical properties of fasteners - Blind rivets testing;

- GB/T 3098.19 Mechanical properties of fasteners - Blind rivets with break pull mandrel;

- GB/T 3098.20 Mechanical properties of fasteners - Wing nuts with specified proof torque;

- GB/T 3098.21 Mechanical properties of fasteners - Stainless steel tapping screws;

- GB/T 3098.22 Mechanical properties of fasteners made of the fine grain non-heat treatment steel - Bolts, screws and studs;

- GB/T 3098.23 Mechanical properties of fasteners - M42 ~ M72 bolts, screws and studs;

- GB/T 3098.24 Mechanical properties of fasteners - Stainless steel and nickel alloys bolts, screws, studs and nuts for high temperature applications;

- GB/T 3098.25 Mechanical properties of fasteners - Guidance for the selection of stainless steels and nickel alloys for fasteners;

- GB/T 3098.26 Mechanical properties of fasteners - Flat washers.

This document replaces GB/T 3098.6-2014 "Mechanical properties of fasteners - Stainless steel bolts, screws and studs". Compared with GB/T 3098.6-2014, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) ADD duplex (austenite-ferrite) stainless steel with performance grades of 70, 80,

100 (see Figure 1);

b) ADD the austenitic stainless steel performance grade 100 and group A8 (see Figure 1);

c) CHANGE the surface finishing (see 6.3; Chapter 4 of the 2014 edition);

d) ADD the stainless steel bolt and nut group matching (see 6.4);

e) ADD the minimum tensile load and minimum load calculation value when the specified plastic elongation is 0.2%, as well as the principle of numerical rounding (see Table 4 ~ Table 7);

f) ADD the fasteners with reduced bearing capacity due to head structure or rod structure (see 8.2);

g) ADD the inspection procedure requirements and guidance (see 8.3 ~ 8.6);

h) ADD the applicability of full load capacity and reduced load capacity test methods (see Chapter 8);

i) CHANGE the tensile strength test procedure (see 9.1; 7.2 of the 2014 edition); ADD reduced load capacity test method (see 9.2 and 9.3);

j) CHANGE the wedge load test (see 9.4; 7.2 of the 2014 edition) and hardness test (see 9.6; 7.2 of the 2014 edition);

k) CHANGE the marking and labeling; ADD the reduced load capacity fastener marking method (see Chapter 10; Chapter 4 of the 2014 edition);

l) CHANGE the mechanical properties at high temperature and application at low temperature (see Appendix A; Appendix F of the 2014 edition);

m) DELETE the common appendixes in the series of mechanical properties standards for stainless steel fasteners (see Appendix B ~ Appendix E; Appendix G, Appendix H of the 2014 edition).

This document modifies and adopts ISO 3506-1.2020 "Fasteners - Mechanical properties of corrosion-resistant stainless steel fasteners - Part 1.Bolts, screws and studs with specified grades and performance grades".

The technical differences between this document and ISO 3506-1.2020, as well as their reasons, are as follows.

- USE the normative reference GB/T 3098.25 to replace ISO 3506-6, to adapt to China's technical conditions (see 6.1);

- USE the normative reference GB/T 39310 to replace ISO 16228, to adapt to China's technical conditions (see 8.6);