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PEOPLE'S REPUBLIC OF CHINA**

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Mechanical properties of fasteners - Stainless steel nuts

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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 15 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 corrosion-resistant stainless-steel fasteners
- Part 1.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 tapping
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 - Nuts made of stainless-steel;
- GB/T 3098.16 Mechanical properties of fasteners - Set screws made of stainless-
steel;
- 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 - Part 21. Tapping screws of stainless-steel;
- 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 3098.15-2014 "Mechanical properties of fasteners - Nuts made of stainless-steel". Compared with GB/T 3098.15-2014, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) ADD the nut type information (see 5.1);
- b) ADD the duplex (austenite-ferrite) stainless steel with performance levels of 70, 80, 100 (see Figure 1);
- c) ADD the austenitic stainless steel performance level 100 and group A8 (see Figure 1);
- d) ADD the design of stainless steel bolt and nut assemblies (see Chapter 6) and the design principles of stainless steel nuts (see Appendix A);
- e) CHANGE the surface finishing (see 7.3; 4.3 of the 2014 edition);

- f) ADD the calculated value of the nut proof load and the principle of numerical rounding (see Tables 5 ~ 8);
- g) ADD the inspection procedure requirements and guidance (see Chapter 9);
- h) ADD the thread size requirements for the mandrel of the nut proof load test (see Appendix B);
- i) CHANGE the proof load and hardness test methods (see Chapter 10; Chapter 7 of the 2014 edition);
- j) CHANGE the nut marking and labeling, adding the marking method for thin nuts with reduced load capacity (see Chapter 11; 4.2 of the 2014 edition);
- k) DELETE the common appendixes in the series of standards for mechanical properties of stainless steel fasteners (see Appendix A ~ Appendix E of the 2014 edition).

This document modifies and adopts ISO 3506-2:2020 "Fasteners - Mechanical properties of corrosion-resistant stainless steel fasteners - Part 2. Nuts of specified groups and performance levels".

Compared with ISO 3506-2:2020, this document has made the following structural adjustments.

- 10.2.2.1, 10.2.2.2, 10.2.2.3 correspond to 10.2.2 in ISO 3506-2:2020;
- ADD Figure 4; Figure 5 corresponds to Figure 4 in ISO 3506-2:2020, Figure 6 corresponds to Figure 5 in ISO 3506-2:2020, Figure 7 corresponds to Figure 6 in ISO 3506-2:2020, Figure 8 corresponds to Figure 7 in ISO 3506-2:2020, Figure 9 corresponds to Figure 8 in ISO 3506-2:2020.

The technical differences between this document and ISO 3506-2:2020 and 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 7.1);
- USE the normative reference GB/T 39310 to replace ISO 16228, to adapt to China's technical conditions (see 9.4);