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**Mechanical properties of fasteners
made of carbon steel and alloy
steel—Bolts, screws and studs
with specified property classes—
Coarse thread and fine pitch thread**

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Contents

	Page
Introduction.....	1
1 Scope.....	1
2 Normative references.....	2
3 Terms and definitions.....	3
4 Symbols and abbreviated terms.....	6
5 Designation system for property classes.....	8
6 Materials.....	8
7 Mechanical and physical properties.....	10
8 Applicability of test methods.....	16
8.1 General.....	16
8.2 Loadability of fasteners.....	16
8.3 Manufacturer's test/inspection.....	17
8.4 Supplier's test/inspection.....	17
8.5 Purchaser's test/inspection.....	17
8.6 Feasible tests for groups of fasteners and machined test pieces.....	17
9 Test methods.....	26
9.1 Tensile test under wedge loading of finished bolts and screws (excluding studs).....	26
9.2 Tensile test for finished bolts, screws and studs for determination of tensile strength, R_m	30
9.3 Tensile test for full size bolts, screws and studs for determination of elongation after fracture, A_f , and stress at 0.004 8d non-proportional elongation, $R_{p0.004}$	32
9.4 Tensile test for bolts and screws with reduced loadability due to head design.....	35
9.5 Tensile test for fasteners with waisted shank.....	36
9.6 Proof load test for finished bolts, screws and studs.....	38
9.7 Tensile test for machined test pieces.....	40
9.8 Head soundness test.....	43
9.9 Hardness test.....	44
9.10 Decarburization test.....	46
9.11 Carburization test.....	49
9.12 Retempering test.....	51
9.13 Torsional test.....	52
9.14 Impact test for machined test pieces.....	53

9.15	Surface discontinuity inspection	53
10	Marking	54
10.1	General	54
10.2	Manufacturer's identification mark	54
10.3	Marking and identification of fasteners with full loadability	54
10.4	Marking and identification of fasteners with reduced loadability	58
10.5	Marking of packages	59
Annex A (informative)	Relationship between tensile strength and elongation after fracture	30
Annex B (informative)	Influence of elevated temperatures on mechanical properties of fasteners	31
Annex C (informative)	Elongation after fracture for full-size fasteners, A_f	62

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by The Japan Research Institute for Screw Threads and Fasteners (JFRI)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS B 1051**:2000 is replaced with this Standard.

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Mechanical properties of fasteners made of carbon steel and alloy steel— Bolts, screws and studs with specified property classes—Coarse thread and fine pitch thread

Introduction

This Japanese Industrial Standard has been prepared based on the fifth edition of **ISO 898-1** published in 2013 without any modifications of the technical content.

The portions with dotted underlines are the matters not given in the corresponding International Standard.

1 Scope

This Standard specifies mechanical and physical properties of bolts, screws and studs made of carbon steel and alloy steel when tested at an ambient temperature range of 10 °C to 35 °C. Fasteners (the term used when bolts, screws and studs are considered all together) that conform to the requirements of this Standard are evaluated at that ambient temperature range. They might not retain the specified mechanical and physical properties at elevated temperatures (see Annex 2) and/or lower temperatures.

NOTE 1 Fasteners conforming to the requirements of this Standard are used in applications ranging from -50 °C to +150 °C. Users are advised to consult an experienced fastener metallurgist for temperatures outside the range of -50 °C to +150 °C and up to a maximum temperature of +300 °C when determining appropriate choices for a given application.

NOTE 2 Information for the selection and application of steels for use at lower and elevated temperatures is given, for example, in **EN 10269**, **ASTM F2281** and in **ASTM A 320/A320M**.

Certain bolts and screws might not fulfil the tensile or torsional requirements of this Standard because the geometry of their heads reduces the shear area in the head compared to the stress area in the thread. These include bolts and screws having a low or countersunk head (see **8.2**).

This Standard is applicable to bolts, screws and studs

- made of carbon steel or alloy steel,
- having triangular **ISO** metric screw thread in accordance with **JIS B 0205-1**,
- with coarse pitch thread M1.6 to M39, and fine pitch thread M8×1 to M39×3,
- with diameter/pitch combinations in accordance with **JIS B 0205-2** and **JIS B 0205-3**, and
- having thread tolerances in accordance with **JIS B 0209-1**, **JIS B 0209-2** and **JIS B 0209-4**.