

SLOVENSKI STANDARD

SIST EN ISO 898-5:2012

01-september-2012

Nadomešča:
SIST EN ISO 898-5:2001

Mehanske lastnosti veznih elementov iz ogljikovega in legiranega jekla - 5. del: Navojni zatiči in podobni vijaki z navojem določenega trdotnega razreda (ISO 898-5:2012)

Mechanical properties of fasteners made of carbon steel and alloy steel - Part 5: Set screws and similar threaded fasteners with specified hardness classes - Coarse thread and fine pitch thread (ISO 898-5:2012)

Mechanische Eigenschaften von Verbindungselementen aus Kohlenstoffstahl und legiertem Stahl - Teil 5: Gewindestifte und ähnliche Verbindungselemente mit Gewinde in festgelegten Härteklassen - Regelgewinde und Feingewinde (ISO 898-5:2012)

Caractéristiques mécaniques des éléments de fixation en acier au carbone et en acier allié - Partie 5: Vis sans tête et éléments de fixation filetés similaires de classes de dureté spécifiées - Filetages à pas gros et filetages à pas fin (ISO 898-5:2012)

Ta slovenski standard je istoveten z: EN ISO 898-5:2012

ICS:

21.060.10 Sorniki, vijaki, stebelni vijaki Bolts, screws, studs

SIST EN ISO 898-5:2012

en,fr

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 898-5:2012](#)

<https://standards.iteh.ai/catalog/standards/sist/94224b12-9e02-4dea-8115-4b46e2cb6a9c/sist-en-iso-898-5-2012>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 898-5

June 2012

ICS 21.060.10

Supersedes EN ISO 898-5:1998

English Version

Mechanical properties of fasteners made of carbon steel and alloy steel - Part 5: Set screws and similar threaded fasteners with specified hardness classes - Coarse thread and fine pitch thread (ISO 898-5:2012)

Caractéristiques mécaniques des éléments de fixation en acier au carbone et en acier allié - Partie 5: Vis sans tête et éléments de fixation filetés similaires de classes de dureté spécifiées - Filetages à pas gros et filetages à pas fin (ISO 898-5:2012)

Mechanische Eigenschaften von Verbindungselementen aus Kohlenstoffstahl und legiertem Stahl - Teil 5: Gewindestifte und ähnliche Verbindungselemente mit Gewinde in festgelegten Härteklassen - Regelgewinde und Feingewinde (ISO 898-5:2012)

This European Standard was approved by CEN on 31 May 2012.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....3

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 898-5:2012](https://standards.iteh.ai/catalog/standards/sist/94224b12-9e02-4dea-8115-4b46e2cb6a9c/sist-en-iso-898-5-2012)

<https://standards.iteh.ai/catalog/standards/sist/94224b12-9e02-4dea-8115-4b46e2cb6a9c/sist-en-iso-898-5-2012>

Foreword

This document (EN ISO 898-5:2012) has been prepared by Technical Committee ISO/TC 2 "Fasteners" in collaboration with Technical Committee CEN/TC 185 "Fasteners" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2012, and conflicting national standards shall be withdrawn at the latest by December 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 898-5:1998.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

iTeh STANDARD PREVIEW
Endorsement notice
(standards.iteh.ai)

The text of ISO 898-5:2012 has been approved by CEN as a EN ISO 898-5:2012 without any modification.

[SIST EN ISO 898-5:2012](https://standards.iteh.ai/catalog/standards/sist/94224b12-9e02-4dea-8115-4b46e2cb6a9c/sist-en-iso-898-5-2012)

<https://standards.iteh.ai/catalog/standards/sist/94224b12-9e02-4dea-8115-4b46e2cb6a9c/sist-en-iso-898-5-2012>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 898-5:2012](#)

<https://standards.iteh.ai/catalog/standards/sist/94224b12-9e02-4dea-8115-4b46e2cb6a9c/sist-en-iso-898-5-2012>

INTERNATIONAL
STANDARDISO
898-5Third edition
2012-06-01

**Mechanical properties of fasteners made
of carbon steel and alloy steel —**

Part 5:

**Set screws and similar threaded fasteners
with specified hardness classes —
Coarse thread and fine pitch thread****iTeh STANDARD PREVIEW**
(standards.iteh.ai)*Caractéristiques mécaniques des éléments de fixation en acier au
carbone et en acier allié —**Partie 5: Vis sans tête et éléments de fixation filetés similaires de classes
de dureté spécifiées — Filetages à pas gros et filetages à pas fin*<https://standards.iteh.ai/catalog/standards/sist/94224b12-9e02-4dea-8115-4b46e2cb6a9c/sist-en-iso-898-5-2012>Reference number
ISO 898-5:2012(E)

© ISO 2012

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 898-5:2012](https://standards.iteh.ai/catalog/standards/sist/94224b12-9e02-4dea-8115-4b46e2cb6a9c/sist-en-iso-898-5-2012)

<https://standards.iteh.ai/catalog/standards/sist/94224b12-9e02-4dea-8115-4b46e2cb6a9c/sist-en-iso-898-5-2012>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2012

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols and abbreviated terms	2
5 Designation system	3
6 Materials	3
7 Mechanical and physical properties	4
8 Applicability of test methods	5
8.1 Manufacturer's inspection	5
8.2 Supplier's inspection	5
8.3 Purchaser's inspection	5
9 Test methods	6
9.1 Hardness test	6
9.2 Decarburization test	7
9.3 Carburization test	10
9.4 Proof torque test for hexagonal socket set screws and hexalobular socket set screws of hardness class 45H	11
10 Marking	13
10.1 General	13
10.2 Manufacturer's identification mark	13
10.3 Marking set screws with hardness class	13
10.4 Marking of packages	13
Annex A (informative) Hydrogen embrittlement relief after electroplating of set screws	14
Bibliography	15

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 898-5 was prepared by Technical Committee ISO/TC 2, *Fastener*, Subcommittee SC 11, *Fasteners with metric external thread*.

This third edition cancels and replaces the second edition (ISO 898-5:1998), which has been technically revised.

ISO 898 consists of the following parts, under the general title *Mechanical properties of fasteners made of carbon steel and alloy steel*:

- *Part 1: Bolts, screws and studs with specified property classes — Coarse thread and fine pitch thread*
- *Part 2: Nuts with specified property classes — Coarse thread and fine pitch thread*
- *Part 5: Set screws and similar threaded fasteners with specified hardness classes — Coarse thread and fine pitch thread*
- *Part 6: Nuts with specified proof load values — Fine pitch thread*
- *Part 7: Torsional test and minimum torques for bolts and screws with nominal diameters 1 mm to 10 mm*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/sist/94224b12-9e02-4dea-8115-4b46e2cb6a9c/sist-en-iso-898-5-2012>

Mechanical properties of fasteners made of carbon steel and alloy steel —

Part 5: Set screws and similar threaded fasteners with specified hardness classes — Coarse thread and fine pitch thread

1 Scope

This part of ISO 898 specifies mechanical and physical properties of set screws and similar threaded fasteners made of carbon steel or alloy steel when tested at an ambient temperature range of 10 °C to 35 °C. Fasteners (the term used when set screws and similar threaded fasteners are considered all together) which conform to the requirements of this part of ISO 898 are evaluated at that ambient temperature range.

Fasteners in conformance with this part of ISO 898 are classified to specified hardness classes and are intended for use under compressive stress only.

NOTE Fasteners conforming to the requirements of this part of ISO 898 are used in applications ranging from –50 °C to +150 °C. It is the responsibility of users 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.

This part of ISO 898 is applicable to set screws and similar threaded fasteners:

- made of carbon steel or alloy steel,
- having a triangular ISO metric screw thread in conformance with ISO 68-1,
- with a coarse pitch thread of M1,6 to M30, and a fine pitch thread of M8×1 to M30×2,
- with diameter/pitch combinations in conformance with ISO 261 and ISO 262, and
- having thread tolerances in conformance with ISO 965-1 and ISO 965-2.

It does not specify requirements for such properties as

- tensile strength,
- shear strength,
- weldability,
- corrosion resistance, or
- the ability to withstand temperatures above +150 °C or below –50 °C.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 225, *Fasteners — Bolts, screws, studs and nuts — Symbols and descriptions of dimensions*

ISO 965-1, *ISO general-purpose metric screw threads — Tolerances — Part 1: Principles and basic data*