



**NSAI**  
Standards

Irish Standard  
I.S. 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 (ISO 898-5:2012)

## I.S. EN ISO 898-5:2012

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

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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)

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## **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of an identical text or by endorsement, at the latest by December 2012, and conflicting national standards shall be withdrawn at the latest by December 2012.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.

### **Endorsement notice**

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

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**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**

*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*



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## 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*

# 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*

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