

STN	Mechanické vlastnosti spojovacích súčiastok z uhlíkovej a legovanej ocele Časť 3: Podložky so stanovenými pevnostnými triedami (ISO 898-3: 2018)	STN EN ISO 898-3 02 1005
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Mechanical properties of fasteners made of carbon steel and alloy steel - Part 3: Flat washers with specified property classes (ISO 898-3:2018)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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Mechanical properties of fasteners made of carbon steel and alloy steel - Part 3: Flat washers with specified property classes (ISO 898-3:2018)

Caractéristiques mécaniques des fixations en acier au carbone et en acier allié - Partie 3: Rondelles de forme plane de classes de qualité spécifiées (ISO 898-3:2018)

Mechanische Eigenschaften von Verbindungselementen aus Kohlenstoffstahl und legiertem Stahl - Teil 3: Flache Scheiben mit festgelegten Festigkeitsklassen (ISO 898-3:2018)

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EN ISO 898-3:2018 (E)

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European foreword

This document (EN ISO 898-3:2018) 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 BSI.

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of an identical text or by endorsement, at the latest by December 2018, and conflicting national standards shall be withdrawn at the latest by December 2018.

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

Part 3: Flat washers with specified property classes

*Caractéristiques mécaniques des fixations en acier au carbone et en
acier allié —*

Partie 3: Rondelles de forme plane de classes de qualité spécifiées



Reference number
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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 2, *Fasteners*.

A list of all parts in the ISO 898 series can be found on the ISO website.

Introduction

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 7: Torsional test and minimum torques for bolts and screws with nominal diameters 1 mm to 10 mm*

This document in the ISO 898 series provides a single point of reference for flat washers, in order to standardize market expectations for users, distributors and manufacturers.

This document only deals with flat washers made of carbon steel or alloy steel.

Washers made of stainless steel are not addressed in this document due to their different characteristics and test methods.

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

Part 3: Flat washers with specified property classes

1 Scope

This document specifies mechanical and physical properties of flat washers, designed to be used in bolted joints in combination with bolts, screws, studs and nuts with a specified property class in accordance with ISO 898-1 and ISO 898-2.

NOTE 1 These types of washers can also be used with other fasteners such as screws forming their own mating thread.

Washers that conform to the requirements of this document are evaluated at an ambient temperature range of 10 °C to 35 °C. They might not retain the specified mechanical and physical properties at elevated temperatures and/or lower temperatures.

NOTE 2 Washers conforming to the requirements of this document are used in applications ranging from -50 °C to +150 °C. Users are advised to consult an experienced fastener expert for temperatures outside this range and up to a maximum temperature of +300 °C when determining appropriate choices, or for critical applications.

This document is applicable to the following flat captive and non-captive washers made of carbon steel or alloy steel, with thickness from 0,2 mm to 12 mm:

- plain washers (with or without knurls, ribs or chamfers);
- square washers;
- square hole washers;
- shaped plates.

It does not specify requirements for the following properties:

- corrosion resistance;
- weldability.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1891-4, *Fasteners — Terminology — Part 4: Controls, inspection, delivery, acceptance and quality*

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method*

ISO 10644, *Screw and washer assemblies made of steel with plain washers — Washer hardness classes 200 HV and 300 HV*

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ISO 10669, *Plain washers for tapping screw and washer assemblies — Normal and large series — Product grade A*

ISO 10673, *Plain washers for screw and washer assemblies — Small, normal and large series — Product grade A*

ISO 10684, *Fasteners — Hot dip galvanized coatings*

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