BS EN ISO 898-3:2018+A1:2021

BSI Standards Publication

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

Part 3: Flat washers with specified property classes

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National foreword

This British Standard is the UK implementation of EN ISO 898-3:2018+A1:2021. It is identical to ISO 898-3:2018, incorporating amendment 1:2020. Together with BS EN ISO 7091:2000, BS EN ISO 7092:2000, BS EN ISO 7093-1:2000, BS EN ISO 7093-2:2000 and BS EN ISO 7094:2000, it supersedes BS 4320:1968, which is withdrawn. It also supersedes BS EN ISO 898-3:2018, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO text carry the number of the ISO amendment. For example, text altered by ISO amendment 1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee FME/9, Fasteners.

A list of organizations represented on this committee can be obtained on request to its committee manager.

BSI, as a member of CEN, is obliged to publish EN ISO 898-3:2018 as a British Standard. However, attention is drawn to the fact that during the development of this European Standard, the UK committee voted against its approval.

FME/9 voted to disapprove this standard for the following reason.

Table 1 of ISO 898-3:2018 does not permit 100 HV washers to be used with 8.8/8 bolt and nut assemblies or with 10.9/10 bolt and nut assemblies.

Bolt, nut and washer assemblies using these washers are permitted in accordance with the cited harmonized standard EN 15048-1:2007 (see EN 15048-1:2007, Table 6), and are required for use in structural connections as specified in EN 1090-2, *Execution of steel structures and aluminium structures – Part 2: Technical requirements for steel structures*.

These assemblies are used extensively in non-preloaded structural bolting in the UK and have been used successfully for well over 40 years. The function of the washers in these non-preloaded structural bolting assemblies is solely to reduce local damage to metal coatings applied to the structural steelwork, and there is therefore no technical justification for prohibiting the use of 100 HV washers for these assemblies.

Note: EN 15048-1:2016 and EN 15048-2:2016 have been published but the harmonized standard EN 15048-1:2016 has not yet been cited. Requirements concerning washers have been removed from EN 15048-1:2016 but the requirements concerning the use of 100 HV washers with 8.8/8 bolt and nut assemblies or with 10.9/10 bolt and nut assemblies are retained in EN 15048-2:2016 (see EN 15048-2:2016, Clause 5.2).

FME/9 recommends that for all structural bolting assemblies required for EN 1090-2 connections the requirements of ISO 898-3:2018 should be disregarded.

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Amendments/corrigenda issued since publication

Date	Text affected
30 June 2021	Correction to supersession details in national foreword. Implementation of ISO amendment 1:2020 with CEN endorsement A1:2021

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 898-3:2018 +A1

June 2018

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English Version

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

Fixations — 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)

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

This European Standard was approved by CEN on 16 May 2018.

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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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Endorsement notice

The text of ISO 898-3:2018 has been approved by CEN as EN ISO 898-3:2018 without any modification.

European foreword to amendment A1

This document (EN ISO 898-3:2018/A1:2021) 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 Amendment to the European Standard EN ISO 898-3:2018 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2021, and conflicting national standards shall be withdrawn at the latest by November 2021.

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Endorsement notice

The text of ISO 898-3:2018/Amd 1:2020 has been approved by CEN as EN ISO 898-3:2018/A1:2021 without any modification.

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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.

[A1] This document was prepared by Technical Committee ISO/TC 2, *Fasteners*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 185 *Fasteners*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement). [/A1]

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

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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.

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