



BSI Standards Publication

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

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Part 3: Flat washers with specified property classes

## 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7092:2000, BS EN ISO 7093-1:2000, BS EN ISO 7093-2:2000 and BS EN ISO 7094:2000, it supersedes BS 4320:1968, which is withdrawn. It also supersedes BS EN ISO 898-3:2018, which is withdrawn.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