



BSI Standards Publication

Bolts, shear, hexagonal heads, close tolerance shank, unified threads, low alloy steel, cadmium plated (on head and thread only) — Specification

Classification $R_m = 123\ 200 - 145\ 600\ \text{lbf/in}^2$
($850 - 1\ 004\ \text{MPa}$) at ambient temperature | +190 °C

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Summary of pages

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Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 October 2023. It was prepared by Technical Committee ACE/12, *Aerospace fasteners and fastening*. A list of organizations represented on this committee can be obtained on request to its committee manager.

Supersession

This British Standard supersedes [BS 3A 108:1962](#), which is withdrawn.

Information about this document

This revision of BS A 108:2023 has been prepared to include a cadmium plating caution notice. It also incorporates historic amendments PD4661 1962, PD5305 1964, AMD 115 1976, and AMD5390 1988, which were previously separate amendment slips.

An equivalent range of bolts which are cadmium plated all over, suitable for insertion into aluminium alloys, is provided by specification BS 4A 111.

NOTE Fasteners manufactured to previous editions of this specification may continue to be supplied until stocks are exhausted.

Hazard warnings

CAUTION. This British Standard features parts that have cadmium as a plating material which has been restricted and/or banned for use in many countries owing to environmental and health concerns; they should not be used in new product designs. Local officials should be consulted about any concerns on the use of cadmium plated parts.

Presentational conventions

The provisions of this document are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Requirements in this document are drafted in accordance with the *Rules for the structure and drafting of UK Standards:2022*, subclause **G.1.1**, which states, “Requirements should be expressed using wording such as: ‘When tested as described in Annex A, the product shall ...’”. This means that only those products that are capable of passing the specified test will be deemed to conform to this document.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

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1 Scope

This British Standard specifies the materials, dimensions, protective finish and inspection requirements for low alloy steel shear bolts with unified hexagons, unified threads and close tolerance shanks for aerospace use.

NOTE The values in British units are to be regarded as the standard.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions, or limits the application, of this document¹⁾. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 4A 100:2003, *Specification for general requirements for bolts and free-running nuts of tensile strength not exceeding 1 249 MPa*

BS 3S 95, *Specification for 11/2 per cent nickel-chromium-molybdenum steel (870/1080 MPa: limiting ruling section 150 mm)*

BS 3S 102, *Specification for carbon-molybdenum steel (bar for the manufacture of forged bolts only)*

BS 3S 105, *Specification for Carbon steel (Bar for the manufacture of forged bolts only)*

BS 2S 147, *Specification for 0.5% nickel-chromium-molybdenum steel bars for the manufacture of forged bolts and forged nuts*

BS S 148, *Specification for low nickel-chromium steel (bar for the manufacture of forged bolts only)*

BS 2S 149, *Specification for 1.75% nickel-chromium-molybdenum steel bars for the manufacture of forged bolts and forged nuts*

BS S 154, *Specification for 2½% nickel-chromium-molybdenum steel billets, bars, forgings and parts (880–1080 MPa: limiting ruling section 150 mm)*

BS S 158, *Specification for 1% chromium-molybdenum steel bars for the manufacture of forged bolts and forged nuts*

[BS EN 2133](#), *Aerospace steels – Cadmium plating of steels with specified tensile strength ≤ 1450 MPa, copper, copper alloys and nickel alloys*

Def Stan 80-217, *Corrosion preventive compound: soft film, cold application NATO Code: C-614 Joint Services Designation PX-1²⁾*

SAE AMS 03-19a, *Electro-deposition of cadmium³⁾*

3 Terms and definitions

No terms and definitions are listed in this document.

4 General requirements

The bolts shall conform to the latest edition of BS A 100.

¹⁾ Documents that are referred to solely in an informative manner are listed in the Bibliography.

²⁾ Available from <https://www.dstan.mod.uk/toolset/index.html>

³⁾ Available from SAE International, https://www.sae.org/standards/content/ams03_19a/