BS 2A 175:1962+A3:2018

BSI Standards Publication

Aerospace Series –

Specification for bolts, 100° countersunk head, D-slot recess in anodized aluminium alloy (unified threads)

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Date	Text affected
November 2018	A3: See Foreword
March 1985	See Foreword
May 1967	See Foreword

Contents

Summary of pages
This document comprises a front cover, and inside front cover, pages i to ii, pages 1 to 17, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI and came into effect on 30 November 1962. It was prepared by Technical Committee ACE/12, *Aerospace fasteners and fastening systems*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This British Standard supersedes BS 2A 175:1962+A2:1985, which is withdrawn.

Information about this document

This revision of British Standard BS 2A 175 has been prepared to relate the standard to the relevant requirements of British Standard BS 4A 100. Additionally, provision has been made for closer limits on head protrusion, the values now shown being the same as those given in the American specification NAS 9800.

This British Standard marks a departure from the traditional method of dimensioning countersunk head bolts by means of toleranced dimensions for head diameter, head thickness, land and angle. The method now adopted is known as the "flushness tolerance" method and was first used in a British Standard for countersunk fasteners in BS 1981. Its basic principles and advantages are outlined in Annex A to this standard, together with suggested methods of gauging.

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

The start and finish of text introduced or altered by Amendment No.3 is indicated in the text by tags ▌A3⟩ and ⟨A3▌. Minor editorial changes are not tagged. Previous amendments are not indicated.

Use of this document

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Presentational conventions

The provisions of this standard 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.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

1 Scope

This British Standard specifies the materials, dimensions and inspection requirements for machined and anodized aluminium alloy bolts with 100° countersunk D-slot recess drive heads and Unified threads for aircraft.

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 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.

BS 4A 100, *Aerospace series — Specification for general requirements for bolts and free running nuts of tensile strength not exceeding 1 249 MPa*

BS L 168, *Specification for bars and extruded sections of aluminium – copper – magnesium – silicon – manganese alloy (Solution treated and artificially aged) (Not exceeding 200 mm diameter or minor sectional dimension)*

SAE AMS03-25, *Sulfuric Acid Anodising of Aluminium and Aluminium Alloys*

3 Terms and definitions

No terms and definitions are listed in this document.

4 General requirements

The bolts shall comply with the relevant requirements of BS 4A 100, in respect of manufacture, screw threads and identification and marking.

5 Material and manufacture

The bolts shall be machined from aluminium bars which comply with BS L 168.

6 Dimensions

6.1 All finished bolts shall conform to the dimensions and tolerances given in Figure 1, Table 1, Table 2 and Figure 2.

NOTE A3 Unless otherwise stated, dimensions are shown in inch values. A3

6.2 The clamping length of the bolt shall conform to the dimensions and tolerances given in Table 2, and shall be such that, when a standard nut without countersink or a ring gauge without countersink has been screwed on as far as possible by hand (without undue force), its leading face is within the distance *M* from the upper surface of the bolt head. The runout of thread shall not exceed twice the pitch.

6.3 The nominal length of the bolt shall be the minimum bearing length *L*, which is determined by the minimum clamping length *M*, less two thread pitches, see Figure 3.

