

Aerospace series — Bushes, flanged in aluminium alloy with self-lubricating liner, elevated load

Part 2: Dimensions and loads — Inch series

ICS 49.035

National foreword

This British Standard is the UK implementation of EN 4535-2:2009.

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

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Série aérospatiale - Bagues à épaulement en alliage d'aluminium à garniture autolubrifiante, charge élevée - Partie 2 : Dimensions et charges - Série en inches

Luft- und Raumfahrt - Buchsen mit Flansch aus Aluminiumlegierung, mit selbstschmierender Beschichtung, erhöhte Belastung - Teil 2: Maße und Belastungen - Inch Reihe

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Foreword

This document (EN 4535-2:2009) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

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of an identical text or by endorsement, at the latest by December 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

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This standard was reviewed by the Domain Technical Coordinator of ASD-STAN's Mechanical Domain.

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1 Scope

This standard specifies the characteristics of bushes flanged in aluminium alloy with self-lubricating liner elevated load for aerospace applications.

The bushes are intended for use in fixed or moving parts of the aircraft structure and control mechanisms.

They shall be used in the temperature range – 55 °C to 121 °C.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 2101, *Aerospace series — Chromic acid anodizing of aluminium and wrought aluminium alloys*

EN 2284, *Aerospace series — Sulphuric acid anodizing of aluminium and wrought aluminium alloys*

EN 2311, *Aerospace series — Bushes with self-lubricating liner — Technical specification*

EN 2318, *Aerospace series — Aluminium alloy AL-P2024- — T3511 — Extruded bars and sections — 1,2 mm ≤ a or D ≤ 150 mm*

EN 2424, *Aerospace series — Marking of aerospace products*

TR 4475, *Aerospace series — Bearings and mechanical transmissions for airframe applications — Vocabulary*¹⁾

ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in TR 4475 apply.

4 Requirements

4.1 Configuration, dimensions and mass

According to Figures 1 and 2 and Tables 1, 2, 4 and 5. Dimensions apply after surface treatment. Dimensions and tolerances are expressed in millimetres (inches).

General tolerances shall be ISO 2768-m in accordance with ISO 2768-1.

4.2 Surface roughness

According to Figures 1 and 2.

4.3 Materials

Bush: Aluminium alloy according to EN 2318.

1) Published as ASD Technical Report at the date of publication of this standard.

Liner: Self-lubricating wear resistant material consistent with the requirements of EN 2311.

4.4 Surface treatment

Code R: Chromic acid anodizing according to EN 2101, type A or Sulphuric acid anodizing according to EN 2284, type A.

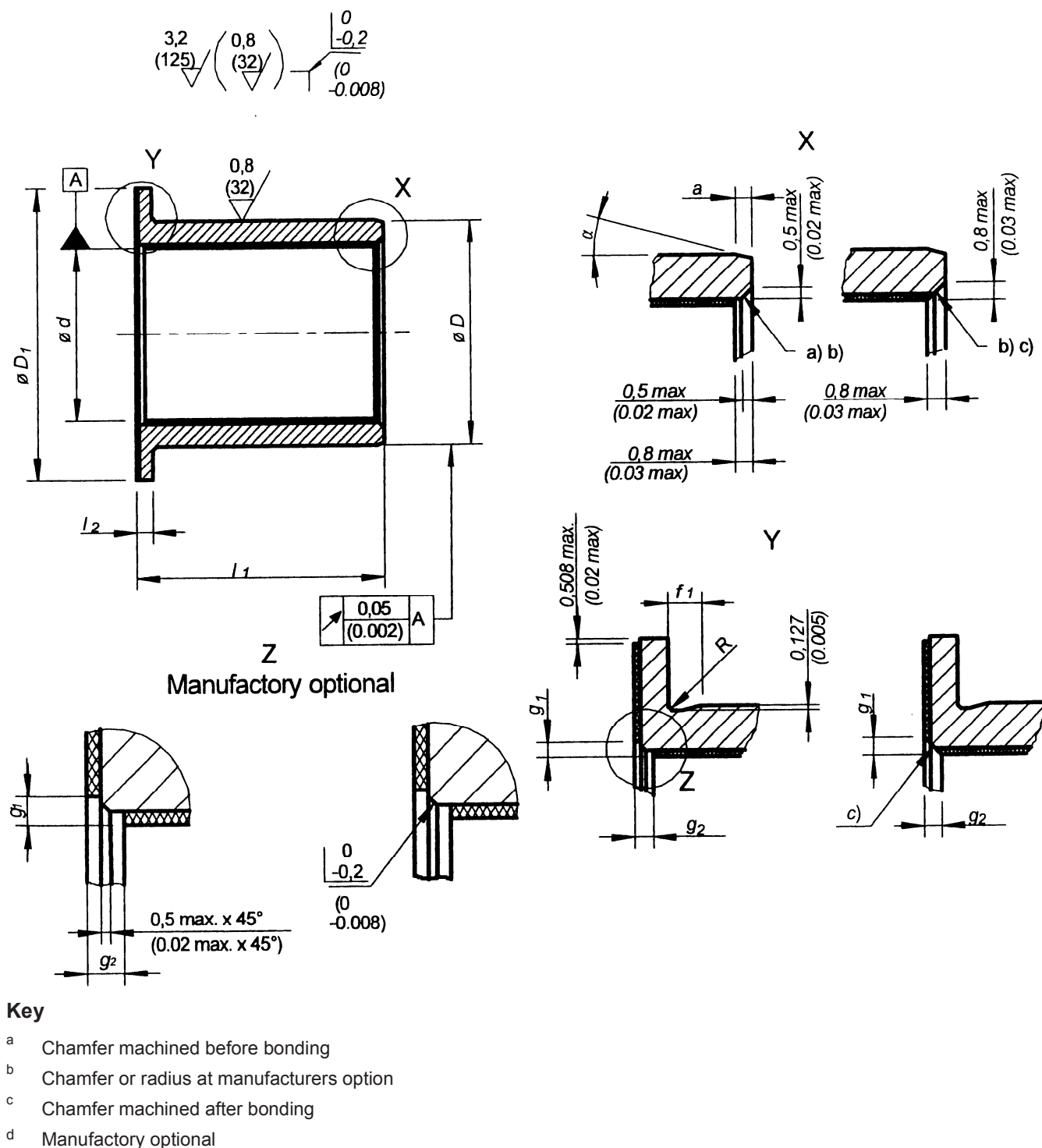


Figure 1 — Configuration — Type D

Table 1 — Dimensions and tolerances — Type D

Diameter code ^a	<i>d</i>		<i>D</i>	<i>D</i> ₁	<i>g</i> ₁	<i>g</i> ₂	<i>l</i> ₂	<i>f</i> ₁	<i>a</i>	<i>α</i>	<i>R</i>
	Nominal diameter	0 − 0,025	± 0,013	0 − 0,51	max.	max.	0 − 0,13	max.		± 2°	+ 0,25 0
		(⁰ − 0.0010)	(± 0.0005)	(⁰ − 0.020)			(⁰ − 0.005)				
04	6,350 (0.2500)	6,388 (0.2515)	9,550 (0.3760)	19,05 (0.750)	0,70 (0.028)	0,70 (0.028)	1,60 (0.063)	1,20 (0.047)	0,50 to 0,70 (0.020 to 0.030)	15°	0,13 (0.005)
05	7,938 (0.3125)	7,976 (0.3140)	11,140 (0.4386)	20,64 (0.813)							
06	9,525 (0.3750)	9,563 (0.3765)	12,730 (0.5012)	22,23 (0.875)							
07	11,113 (0.4375)	11,151 (0.4390)	14,321 (0.5638)	23,81 (0.938)							
08	12,700 (0.5000)	12,738 (0.5015)	15,913 (0.6265)	25,40 (1.000)							
09	14,288 (0.5625)	14,326 (0.5640)	17,506 (0.6892)	28,58 (1.125)							
10	15,875 (0.6250)	15,913 (0.6265)	20,681 (0.8142)	31,75 (1.250)							
11	17,463 (0.6875)	17,501 (0.6890)	22,268 (0.8767)	34,93 (1.375)							
12	19,050 (0.7500)	19,088 (0.7515)	23,858 (0.9393)	38,10 (1.500)							
14	22,225 (0.8750)	22,263 (0.8765)	27,038 (1.0645)	41,28 (1.625)							
16	25,400 (1.0000)	25,438 (1.0015)	30,221 (1.1898)	44,45 (1.750)							
18	28,575 (1.1250)	28,613 (1.1265)	33,396 (1.3148)	47,63 (1.875)							
20	31,750 (1.2500)	31,788 (1.2515)	36,571 (1.4398)	50,80 (2.000)							
22	34,925 (1.3750)	34,963 (1.3765)	39,746 (1.5648)	53,98 (2.125)							
24	38,100 (1.5000)	38,138 (1.5015)	44,508 (1.7523)	57,15 (2.250)							
26	41,275 (1.6250)	41,313 (1.6265)	47,683 (1.8773)	60,33 (2.375)							
28	44,450 (1.7500)	44,488 (1.7515)	50,858 (2.0023)	63,50 (2.500)							
32	50,800 (2.0000)	50,838 (2.0015)	57,208 (2.2523)	69,85 (2.750)							
^a Diameter code corresponds to nominal diameter <i>d</i> in 1/16 inch.											