BRITISH STANDARD

BS A 304:1994
ISO 3203:1993

Bolts, normal bihexagonal head, normal or pitch diameter shank, long length MJ threads, metallic material, coated or uncoated, strength classes less than or equal to 1100 MPa — Dimensions

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Aerospace Standards Policy Committee (ACE/-) to Technical Committee ACE/12, upon which the following bodies were represented:

The Association of Electronics, Telecommunications and Business Equipment Industries

British Industrial Fasteners Federation

Ministry of Defence

Society of British Aerospace Companies Ltd.

This British Standard, having been prepared under the direction of the Aerospace Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on
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The following BSI references relate to the work on this standard:
Committee reference ACE/12
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Amendments issued since publication

Amd. No.	Date	Comments

Contents

National foreword

This British Standard has been prepared under the direction of the Aerospace Standards Policy Committee. It is identical with ISO 3203:1993 *Aerospace — Bolts, normal bihexagonal head, normal or pitch diameter shank, long length MJ threads, metallic material, coated or uncoated, strength classes less than or equal to 1 100 MPa — Dimensions*, published by the International Organization for Standardization (ISO).

Cross-references

International Standard	Corresponding British Standard
ISO 286-2:1988	BS EN 20286 *ISO system of limits and fits* Part 2:1992 *Tables of standard tolerance grades and limit deviations for holes and shafts* (Identical)
ISO 3353:1992	BS 2A 231:1993 *Rolled threads for bolts. Lead and runout requirements.* (Identical)
ISO 5855-2:1988	BS 6293 *Aerospace — MJ threads* Part 2:1994 *Limit dimensions for bolts and nuts* (Identical)

The Technical Committee has reviewed the provisions of ISO 4095:1978, to which normative reference is made in the text, and has decided that they are acceptable for use in conjunction with this standard.

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Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 and 2, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This International Standard specifies the dimensions of normal bihexagonal head bolts, with normal or pitch diameter shank, and long length MJ threads, in metallic material, coated or uncoated, with strength classes less than or equal to 1 100 MPa.

It is intended for the drawing up of aerospace product standards.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 286-2:1988, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts.*

ISO 3353:1992, *Aerospace — Rolled threads for bolts — Lead and runout requirements.*

ISO 4095:1978, *Fasteners for aerospace construction — Bi-hexagonal wrenching configuration.*

ISO 5855-2:1988, *Aerospace — MJ threads — Part 2: Limit dimensions for bolts and nuts.*

3 Configuration and dimensions

See Figure 1 and Table 1. Dimensions and tolerances are expressed in millimetres. They are applicable after any surface coating, but before the application of any lubricant.

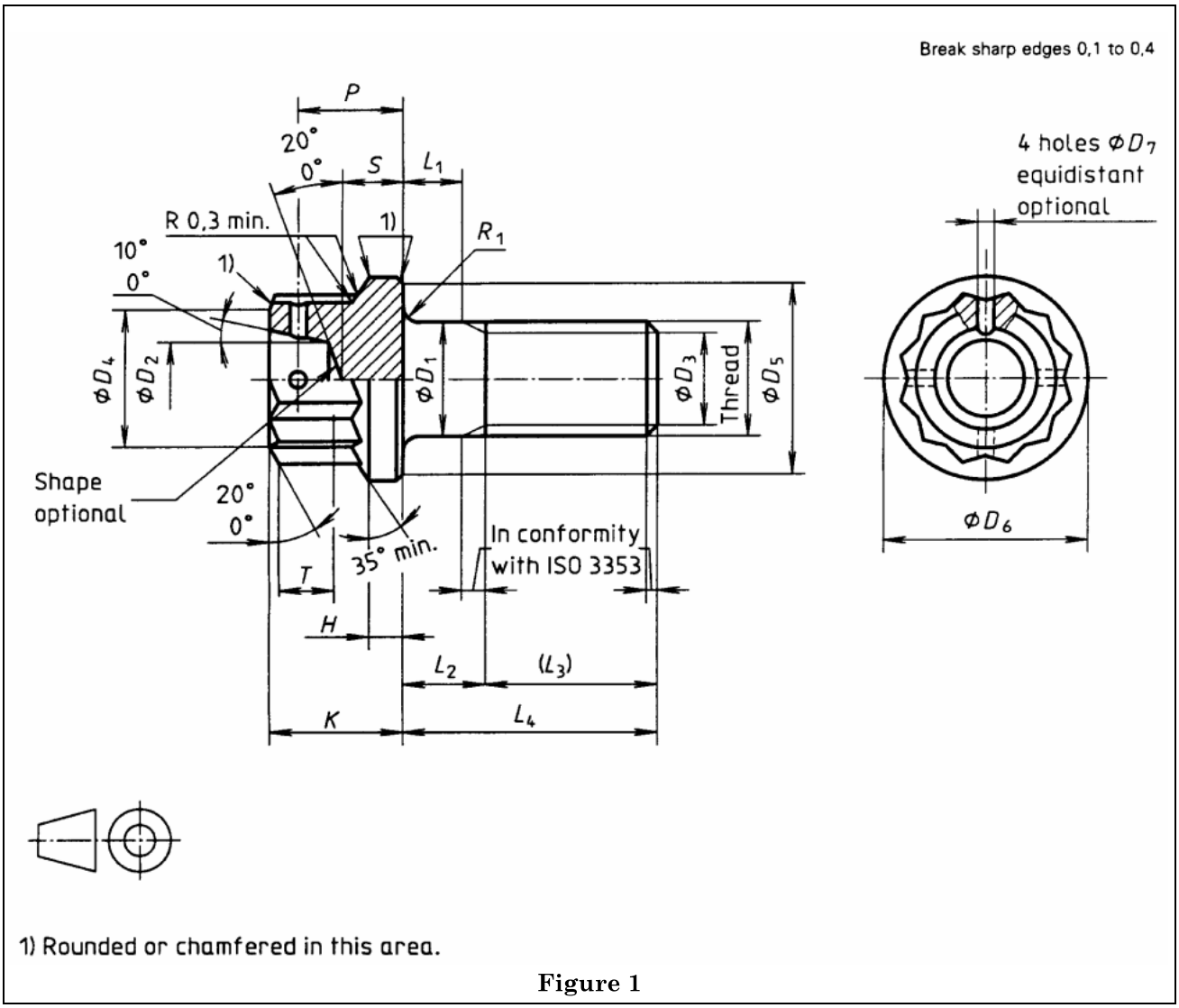

Figure 1

Table 1

Diameter code	Thread[a]	D_1 normal nom.	D_1 normal tol.	D_1 pitch diameter nom.	D_1 pitch diameter tol.	D_2 +0,5 0	D_3 nom.	D_3 tol.	D_4 min.	D_5 min.	D_6 max.	D_7 H13[b]
040	MJ4 × 0,7 – 4h6h	4	h12[b]	3,54	± 0,13	—	3	0 −0,5	5,8	7,5	8,3	1
050	MJ5 × 0,8 – 4h6h	5		4,48		3,2	3,4	± 0,5	6,8	8,3	9,1	
060	MJ6 × 1 – 4h6h	6		5,35		4,1	4,2		7,8	9,8	10,6	1,4
070	MJ7 × 1 – 4h6h	7		6,35		4,9	5,2		8,8	11,3	12,1	
080	MJ8 × 1 – 4h6h	8		7,35		5,2	6,2		9,8	12,8	13,6	
100	MJ10 × 1,25 – 4h6h	10		9,19		6,7	7,9		11,8	15,7	16,7	1,6
120	MJ12 × 1,25 – 4h6h	12		11,19		8	9,8		13,7	18,8	19,9	

Diameter code	H min.	K h15[b]	L_1[cde] min.	L_2[cde] max.	L_3	L_4[e] nom.	L_4[e] tol.	P	R_1 nom.	R_1 tol.	S +0,4 0	T min.	Wrenching dash number[f]
040	0,8	5,5	0,4	2	14	16 to 56	± 0,3	3,5	0,4	0 −0,2	—	2,5	06
050	1	6,5	0,5	4	16	20 to 70		4,5	0,5		2,5	2,8	07
060	1,2	7,5	0,7		18	22 to 84		5,2	0,7		2,8	3,5	08
070	1,4	8,2			20	24 to 98		5,9			3,3	3,8	09
080	1,6	8,6			22	26 to 112		6,3			3,7	3,9	10
100	2	10,1	0,8	6	26	32 to 140		7,7	0,8		4,7	4,2	12
120	2,4	11,4	0,9		30	36 to 168		8,8	0,9	0 −0,3	5,6	4,5	14

[a] In conformity with ISO 5855-2.

[b] See ISO 286-2.

[c] First length, corresponding to first L_4 length.

[d] Conditions L_1 min. and L_2 max. cannot be obtained simultaneously.

[e] Increments:
2 for $L_4 \leqslant 100$
4 for $L_4 > 100$
If greater lengths are required, they shall be chosen using these increments.

[f] In conformity with ISO 4095 over T min.

List of references

See national foreword.

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W4 4AL