

INTERNATIONAL STANDARD

ISO
3186

First edition
1994-10-01

Aerospace — Bolts, large bihexagonal head, normal shank, short or medium length MJ threads, metallic material, coated or uncoated, strength classes 1 250 MPa to 1 800 MPa — Dimensions

*Aéronautique et espace — Vis à tête bihexagonale large, avec tige normale
et filetage MJ court ou de longueur moyenne, en matériau métallique,
revêtues ou non revêtues, des classes de résistance 1 250 MPa à
1 800 MPa — Dimensions*

<https://standards.iteh.ai/catalog/standards/iso/8276ef1b-69d0-4fa1-9fef-0c5703a933e0/iso-3186-1994>



Reference number
ISO 3186:1994(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 3186 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 4, *Aerospace fastener systems*.

ISO 3186:1994

<https://standards.iteh.ai/catalog/standards/iso/8276ef1b-69f0-4fa1-9fef-0c5703a933e0/iso-3186-1994>

© ISO 1994

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization

Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Aerospace — Bolts, large bihexagonal head, normal shank, short or medium length MJ threads, metallic material, coated or uncoated, strength classes 1 250 MPa to 1 800 MPa — Dimensions

1 Scope

This International Standard specifies the dimensions of large bihexagonal head bolts, with close or large tolerance normal shank, and short or medium length MJ threads, in metallic material, coated or uncoated, with strength classes 1 250 MPa to 1 800 MPa.

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

ISO 7913:1994, *Aerospace — Bolts and screws, metric — Tolerances of form and position.*

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.

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.

Tolerances of form and position are specified in ISO 7913.

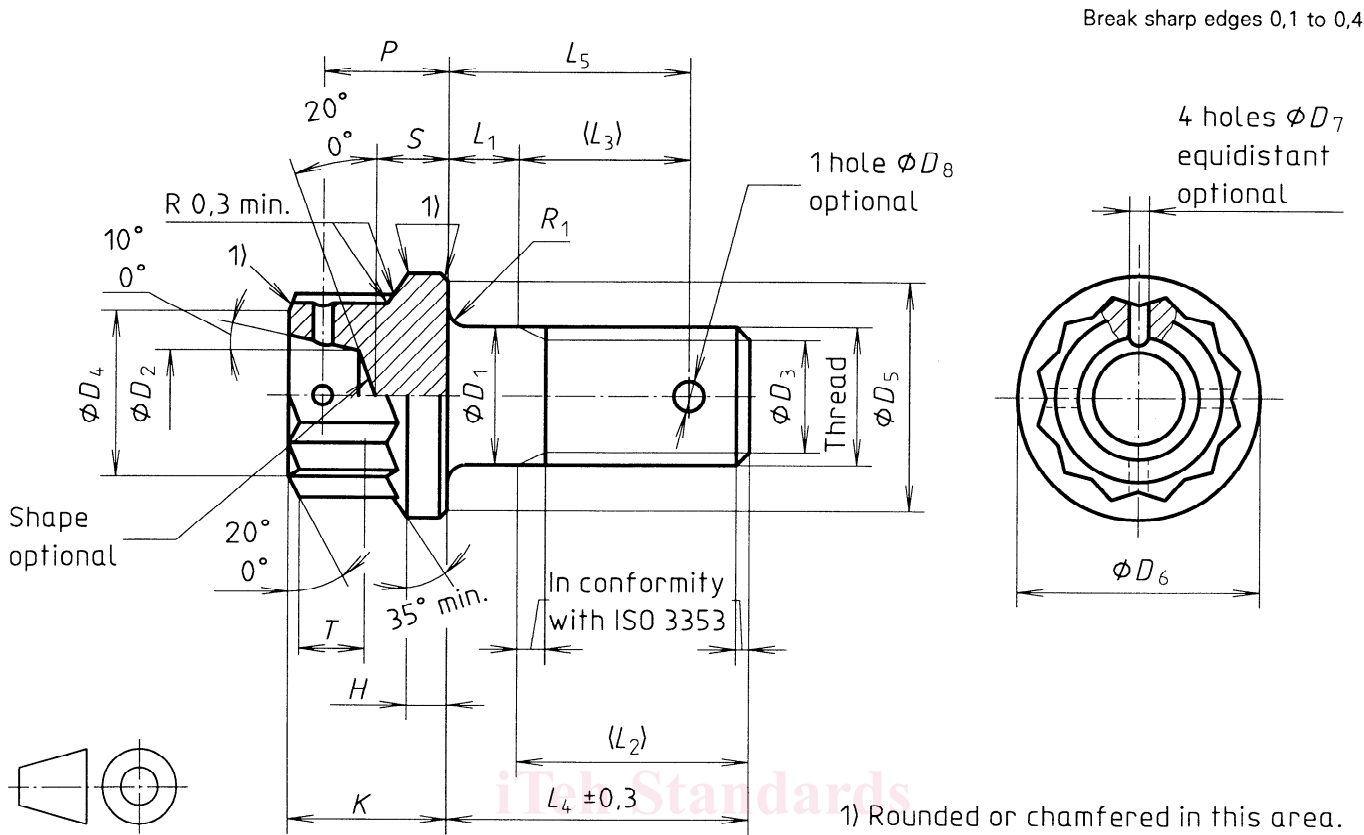


Figure 1

Table 1

Diameter code	Thread 1)	D ₁						D ₂	D ₃	D ₄	D ₅	D ₆	D ₇	D ₈										
		nom.	Coated bolts		Uncoated bolts																			
			tol.		tol.																			
			close	large	close	large	+ ¹ ₀	± 0,5	min.	min.	max.	H13 2)	H13 2)											
050	MJ5×0,8 – 4h6h	5	-0,010 -0,035	h12 2)	f7 2)	h12 2)	2,5	3,4	6,8	9,5	10,3	1	1,5											
060	MJ6×1 – 4h6h	6					3,2	4,2	7,8	11	11,8	1,4		1,9										
070	MJ7×1 – 4h6h	7					3,9	5,2	8,8	12,5	13,3													
080	MJ8×1 – 4h6h	8	-0,013 -0,038				h12 2)	f7 2)	h12 2)	4,5	6,2	9,8	14	14,8	1,6	2,4								
100	MJ10×1,25 – 4h6h	10								6,1	7,9	11,8	17,3	18,3			3							
120	MJ12×1,25 – 4h6h	12								7,7	9,8	13,7	20,9	22										
140	MJ14×1,5 – 4h6h	14	-0,016 -0,041							h12 2)	f7 2)	h12 2)	10,3	11,5		16,7	23,9	25	1,6	3				
160	MJ16×1,5 – 4h6h	16											11,9	13,5		18,6	27,4	28,5			3,8			
180	MJ18×1,5 – 4h6h	18											14,5	15,5		21,6	30,4	31,5						
200	MJ20×1,5 – 4h6h	20	-0,020 -0,045										h12 2)	f7 2)		h12 2)	16	17,5		23,6	33,4	34,5	1,6	3,8
220	MJ22×1,5 – 4h6h	22															18,6	19,5		26,6	36,4	37,5		
240	MJ24×2 – 4h6h	24													21,2		20,9	29,6		39,4	40,5			