BRITISH STANDARD AEROSPACE SERIES

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ISO 3230:1998

Rivets, solid, 100° normal countersunk head with dome, metallic material, with or without surface treatment — Dimensions

ICS 49.030.99

National foreword

This British Standard reproduces verbatim ISO 3230:1988 and implements it as the UK national standard.

The UK participation in its preparation was entrusted by Technical Committee ACE/12, Aerospace fasteners and fastening systems, to Subcommittee ACE/12/1, Aerospace fasteners and fastening systems (International), which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

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

Cross-references

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the ISO title page, page ii, pages 1 to 4 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.

Amendments issued since publication

Amd. No.	Date	Comments

This British Standard, having been prepared under the direction of the Engineering Sector Board, was published under the authority of the Standards Board and comes into effect on
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ISO 3230

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Aerospace — Rivets, solid, 100° normal countersunk head with dome, metallic material, with or without surface treatment — Dimensions

Aeronautique et espace — Rivets ordinaires, à tête fraisée 100° normale avec dôme, en matériau métallique, avec ou sans traitement de surface — Dimensions

Reference number
ISO 3230:1998(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 3230 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles,* Subcommittee SC 4, *Aerospace fastener systems.*

Descriptors: Aircraft industry, fasteners, rivets, countersunk head rivets, form specifications, dimensions, dimensional tolerances.

1 Scope

This International Standard specifies the dimensions of solid rivets, 100° normal countersunk head with dome, in metallic material, with or without surface treatment.

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

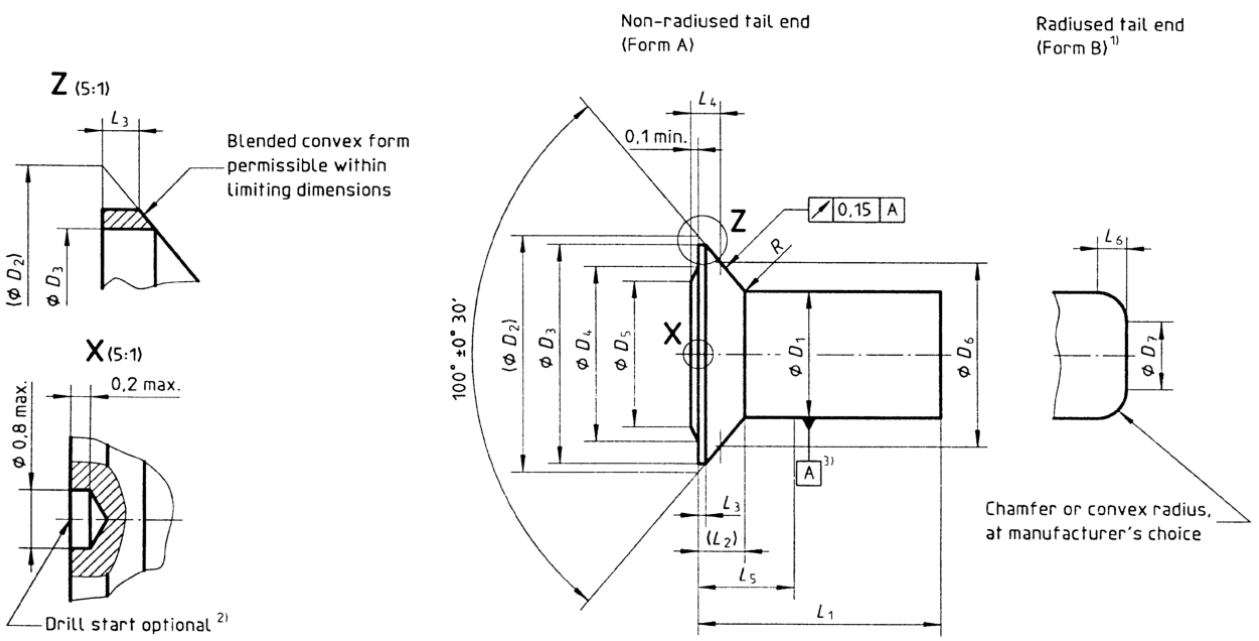
2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was 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 edition of the standard 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.*

3 Configuration and dimensions

See Figure 1 and Table 1 to Table 3. Dimensions and tolerances are expressed in millimetres. They are applicable after any surface treatment.



1) The length range is limited (see tables 2 and 3).
2) Drill start optional, only for corrosion-resistant steels, nickel alloys, commercially pure titanium, titanium alloys.
3) Area of this datum shall be included between L_5 and $L_5 + 1$.

Figure 1

Table 1 — Dimensions (except length L_1)

Diameter code	D_1[a] d11[b]	D_2[c]	D_3 min.	D_4 max.	D_4 min.	D_5 max.	D_5 min.	D_6	D_7 max.	D_7 min.	L_2	L_3 min.	L_4 0 −0,08	L_5	L_6 max.	L_6 min.	R ± 0,08
016	1,6	3	2,7	2,7	2,2	2,2	1,6	2,25	—	—	0,59	0,03	0,41	2	—	—	
020	2	3,7	3,3	3,3	2,6	2,6	2,0	2,89	—	—	0,72	0,04	0,44	2,2	—	—	0,15
025	2,5	4,65	4,15	4,15	3,30	3,3	2,5	3,86	2,0	1,7	0,91	0,05	0,43	2,4	0,8	0,5	
030	3	5,55	4,95	4,95	4,00	4	3	4,5	2,4	2,1	1,07	0,06	0,54	2,5	0,9	0,6	
035	3,5	6,5	5,8	5,8	4,6	4,6	3,5	5,14	2,80	2,45	1,26	0,07	0,67	2,8	1,05	0,70	
040	4	7,4	6,6	6,6	5,3	5,3	4,0	5,78	3,2	2,8	1,43	0,08	0,78	3	1,2	0,8	
050	5	9,25	8,25	8,25	6,60	6,6	5,0	7,71	4,0	3,5	1,8		0,75	3,8	1,5	1,0	0,25
060	6	11,1	9,9	9,9	8,0	8	6	9	4,8	4,2	2,15	0,1	0,98	4,1	1,8	1,2	
080	8	14,8	13,6	13,6	10,8	10,8	8,0	12,21	6,4	5,6	2,87		1,19	4,8	2,4	1,6	
100	10	18,5	17,3	17,3	13,6	13,6	10,0	15,43	8	7	3,59		1,39	5,5	3	2	

[a] Over length ($L_5 - L_2$), D_1 max. may increase by 0,03.
[b] In accordance with ISO 286-2
[c] Maximum condition

Table 2 — Lengths L_1 for rivets in aluminium and aluminium alloys

Diameter code		016	020	025		030		035		040		050		060		080		100	
Length		Shape of tail end[a]																	
code	L_1 $^{+0,5}_{0}$	A	A	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
003	3	X	X																
004	4	X	X	X	X	X	X	X	X										
005	5	X	X	X	X	X	X	X	X										
006	6	X	X	X	X	X	X	X	X	X	X								
007	7	X	X	X	X	X	X	X	X	X	X								
008	8	X	X	X	X	X	X	X	X	X	X	X	X						
009	9	X	X	X	X	X	X	X	X	X	X	X	X						
010	10	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
011	11	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
012	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
013	13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
014	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
015	15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
016	16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
017	17		X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
018	18		X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
019	19		X	X		X		X	X	X	X	X	X	X	X	X	X	X	X
020	20		X	X		X		X	X	X	X	X	X	X	X	X	X	X	X
022	22		X	X		X		X		X	X	X	X	X	X	X	X	X	X
024	24		X	X		X		X		X	X	X	X	X	X	X	X	X	X
026	26			X		X		X		X		X	X	X	X	X	X	X	X
028	28			X		X		X		X		X	X	X	X	X	X	X	X
030	30			X		X		X		X		X		X	X	X	X	X	X
032	32			X		X		X		X		X		X	X	X	X	X	X
035	35			X		X		X		X		X		X		X	X	X	X
040	40					X		X		X		X		X		X		X	
045	45							X		X		X		X		X		X	
050	50									X		X		X		X		X	
055	55											X		X		X		X	
060	60											X		X		X		X	

[a] Form A: non-radiused tail end (see Figure 1)
Form B: radiused tail end (see Figure 1)

Table 3 — Lengths L_1 for rivets in nickel alloys, corrosion-resistant steels, commercially pure titanium and titanium alloys

Diameter code		016	020	025		030		035		040		050		060	
Length		Shape of tail end[a]													
code	L_1 $^{+0,5}_{0}$	A	A	A	B	A	B	A	B	A	B	A	B	A	B
003	3	X	X												
004	4	X	X	X	X	X	X	X	X						
005	5	X	X	X	X	X	X	X	X						
006	6	X	X	X	X	X	X	X	X	X	X				
007	7	X	X	X	X	X	X	X	X	X	X				
008	8	X	X	X	X	X	X	X	X	X	X	X	X		
009	9	X	X	X	X	X	X	X	X	X	X	X	X		
010	10	X	X	X	X	X	X	X	X	X	X	X	X	X	X
011	11	X	X	X	X	X	X	X	X	X	X	X	X	X	X
012	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X
013	13	X	X	X	X	X	X	X	X	X	X	X	X	X	X
014	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X
015	15	X	X	X	X	X	X	X	X	X	X	X	X	X	X
016	16	X	X	X	X	X	X	X	X	X	X	X	X	X	X
017	17		X	X		X	X	X	X	X	X	X	X	X	X
018	18		X	X		X	X	X	X	X	X	X	X	X	X
019	19			X		X		X	X	X	X	X	X	X	X
020	20			X		X		X	X	X	X	X	X	X	X
022	22					X		X		X	X	X	X	X	X
024	24					X		X		X	X	X	X	X	X
026	26							X		X		X	X	X	X
028	28							X		X		X	X	X	X
030	30									X		X		X	X
032	32									X		X		X	X
035	35											X		X	
040	40											X		X	

[a] Form A: non-radiused tail end (see Figure 1)
Form B: radiused tail end (see Figure 1)

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