

BS EN 3383:2012
Incorporating corrigendum April 2012



BSI Standards Publication

**Aerospace series —
Rings retaining, internal,
axial mounting, steel,
vacuum cadmium plated**

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National foreword

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WARNING: Retaining rings conforming to BS EN 3383:2012 have cadmium as plating material. Cadmium has been restricted and/or banned in many countries owing to environmental and health concerns and should not be used on new product designs.

Health and safety officials such as surface treatment experts serving aerospace equipment service areas or aerospace product design areas should be consulted about any concerns on using cadmium-plated parts.

The UK participation in its preparation was entrusted to 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.

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

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Amendments/corrigenda issued since publication

Date	Text affected
30 April 2012	Correction to national foreword

ICS 49.030.50

English Version

Aerospace series - Rings retaining, internal, axial mounting, steel, vacuum cadmium plated

Série aérospatiale - Anneaux d'arrêt, à montage axial, type
intérieur, en acier, cadmiés sous vide

Luft- und Raumfahrt - Sicherungsringe, axial in Bohrungen
montierbar, aus Stahl, vakuumverkadmet

This European Standard was approved by CEN on 24 September 2011.

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Foreword

This document (EN 3383:2012) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

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.

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of an identical text or by endorsement, at the latest by September 2012, and conflicting national standards shall be withdrawn at the latest by September 2012.

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1 Scope and field of application

This standard defines the characteristics of axial mounting internal retaining rings, in steel, vacuum cadmium plated, for aerospace applications.

The cadmium plating restricts the use at temperatures not exceeding 235 °C.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

EN 2535, *Aerospace series — Vacuum deposition of cadmium*

EN 3380, *Aerospace series — Rings retaining — Technical specification*

EN 3425, *Aerospace series — Groove dimensions for axial mounting internal type retaining rings*

3 Required characteristics

3.1 Configuration — Dimensions — Masses

See figure 1 and table.

3.2 Materials

Spring steel:

- 480–530 HV (Diameter codes 008 to 038)
- 440–510 HV (Diameter codes 040 to 165)

3.3 Surface treatment

EN 2535, 5 µm to 9 µm, on all surfaces which can be contacted by a 20 mm ball. On all other surfaces, a continuous deposit shall be present, but no value is specified.

NOTE Details of form not stated are left to the manufacturer's option.

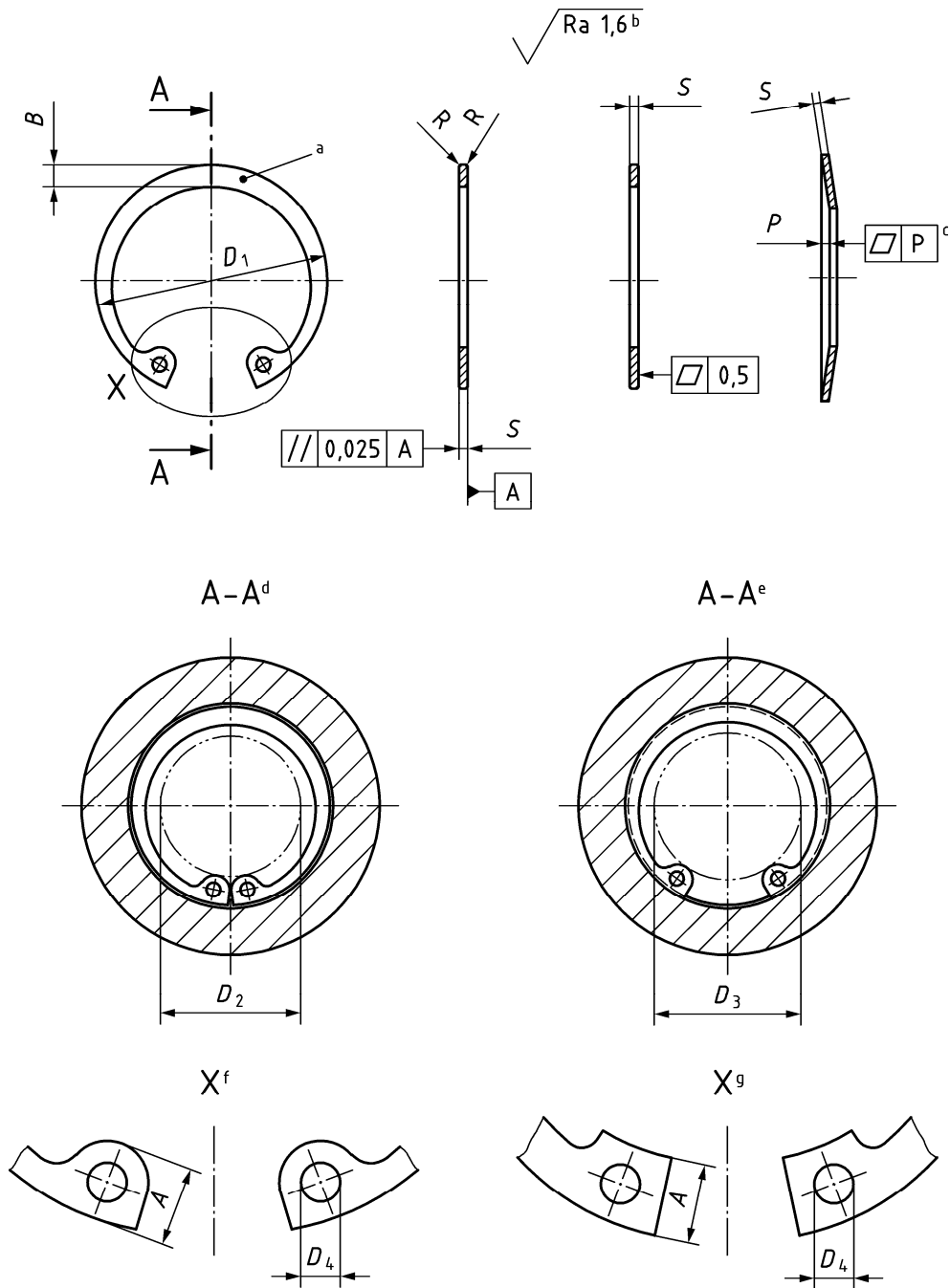


Figure 1

Key:

- a Free
- b Apply prior to phosphating
- c Table
- d At mounting
- e Installed
- f Diameter codes 008 to 048
- g Diameter codes 025 to 165

Table 1

Dimensions in millimetres

Diameter code ^b	A max.	B ^c ≈	D ₁		D ₂ max.	D ₃ max.	D ₄ min.	P	S h11	R max.	Mass ^d kg/1 000 pieces	
			nom.	Tol.								
008	2,4	1,1	8,7	+0,36 -0,16	2,8	3,6	1	0,1	0,8	0,08	0,100	
009	2,5	1,3	9,8		3,1	4,4					0,130	
010	3,2	1,4	10,8		3,6	4	1,2		1	0,1	0,260	
011	3,3	1,5	11,8		3,9	4,8					0,310	
012	3,4	1,7	13		4,7	5,7	1,5		1	0,1	0,370	
013	3,6	1,8	14,1		5,3	6,4					0,420	
014	3,7	1,9	15,1		6	7,2	1,7		1	0,1	0,520	
015	3,7	2	16,2		7	8,3					0,560	
016	3,8	2	17,3		7,7	9,2	2		0,15	1	0,12	0,600
017	3,9	2,1	18,3		8,4	10						0,650
018	4,1	2,2	19,5	8,9	10,8	0,740						
019	4,1	2,2	20,5	9,8	11,8	0,830						
020	4,2	2,3	21,5	10,6	12,6	0,900						
021	4,2	2,4	22,5	11,6	13,6	1,000						
022	4,2	2,5	23,5	12,6	14,6	1,100						
023	4,2	2,5	24,6	13,6	15,7	1,340						
024	4,4	2,6	25,9	14,2	16,4	1,420						
025	4,5	2,7	26,9	15	17,2	1,500						
026	4,7	2,8	27,9	15,6	17,8	1,600						
028	4,8	2,9	30,1	17,4	19,8	1,800						
030	4,8	3	32,1	19,4	21,8	2,060						
031	5,2	3,1	33,4	19,6	22,3	2,130						
032	5,4	3,2	34,4	20,2	22,9	2,210						
034	5,4	3,3	36,5	22,2	24,9	3,200						
035	5,4	3,4	37,8	23,2	26,2	3,540						
036	5,4	3,5	38,8	24,2	27,2	3,700						
037	5,5	3,6	39,8	25	28	3,740						
038	5,5	3,7	40,8	26	29	3,900						
040	5,8	3,9	43,5	27,4	30,9	4,700						
042	5,9	4,1	45,5	29,2	32,7	5,400						
045	6,2	4,3	48,5	31,6	35,1	6,000						
047	6,4	4,4	50,5	33,2	36,7	6,100						
048	6,4	4,5	51,5	34,6	37,7	6,700						
050	6,5	4,6	54,2	36	40	7,300						
052	6,7	4,7	56,2	37,6	41,6	8,200						
055	6,8	5	59,2	40,4	44,4	8,300						
056	6,8	5,1	60,2	41,4	45,4	8,800						
058	6,9	5,2	62,2	43,2	47,2	10,500						
060	7,3	5,4	64,2	44,4	48,4	11,100						
062	7,3	5,5	66,2	46,4	50,4	11,200						
063	7,3	5,6	67,2	47,4	51,4	12,400						
065	7,6	5,8	69,2	48,8	52,8	14,300						
068	7,8	6,1	72,5	51,4	55,4	16,000						
070	7,8	6,2	74,5	53,4	57,4	16,500						
072	7,8	6,4	76,5	55,4	59,4	18,100						
075	7,8	6,6	79,5	58,4	62,4	18,800						
077	7,9	6,7	81,5	60	64,2	19,000						

^a See page 7.

^b See page 7.

^c See page 7.

^d See page 7.

Table 1 (concluded)

Dimensions in millimetres

Diameter code ^b	A	B ^c	D ₁		D ₂	D ₃	D ₄	P	S	R	Mass ^d
	max.	≈	nom.	Tol.	max.	max.	min.		h11	max.	kg/1 000 pieces
078	8,5	6,8	82,5	+1,08 -0,54	60,2	64	3	0,20	2,5	0,25	20,400
080	8,5	7	85,5		62	66,5					22,000
081	8,5	7	86,5		63	67,5					23,000
082	8,5	7	87,5		64	68,5					24,000
083	8,5	7	88,5		65	69,5					25,000
085	8,6	7,2	90,5		66,8	71,3	3,5	0,25	3	0,3	26,300
087	8,6	7,3	92,5		68,8	73,3					29,000
088	8,6	7,4	93,5		69,8	74,3					31,000
090	8,6	7,6	95,5		71,8	76,3					33,000
092	8,7	7,8	97,5		73,6	78,1					35,000
095	8,8	8,1	100,5	76,4	80,9	37,000					
097	8,8	8,2	102,5	78,4	82,9	39,000					
098	9	8,3	103,5	79	83,5	41,000					
100	9	8,4	105,5	81	85,5	42,000					
102	9,2	8,5	108	82,6	87,6	4					0,25
105	9,2	8,7	112	85,6	90,6		56,000				
107	9,5	8,8	114	87	92		58,500				
108	9,5	8,9	115	88	93		60,000				
110	10,4	9	117	88,2	93,2		64,500				
112	10,5	9,1	119	90	95		72,000				
115	10,5	9,3	122	93	98		74,500				
117	10,6	9,5	124	94,8	99,8		75,000				
118	10,7	9,6	125	95	100,6		75,500				
120	11	9,7	127	97	102		77,000				
122	11	9,8	129	99	104	78,000					
125	11	10	132	102	107	79,000					
127	11	10,1	134	104	109	80,500					
128	11	10,2	135	105	110	81,000					
130	11	10,2	137	107	112	82,000					
132	11	10,3	139	109	114	83,000					
135	11,2	10,5	142	112	116,6	84,000					
137	11,2	10,5	144	114	118,6	85,500					
138	11,2	10,6	145	+1,26 -0,63	115	119,6	86,000				
140	11,2	10,7	147	117	121,6	87,500					
142	11,3	10,8	149	119	123,4	89,000					
145	11,4	10,9	152	122	126,2	93,000					
147	11,6	11	154	123	127,8	96,000					
148	11,8	11,1	155	124	128,4	100,000					
150	12	11,2	158	125	131	105,000					
152	12	11,3	161	127	133	106,000					
155	12	11,4	164	130	136	107,000					
157	12	11,5	166	132	138	108,000					
158	12,3	11,5	167	132,4	138,4	109,000					
160	13	11,6	169	133	139	110,000					
162	13	11,7	171,5	135	141	118,000					
165	13	11,8	174,5	138	144	125,000					

^a Values apply after cadmium plating.

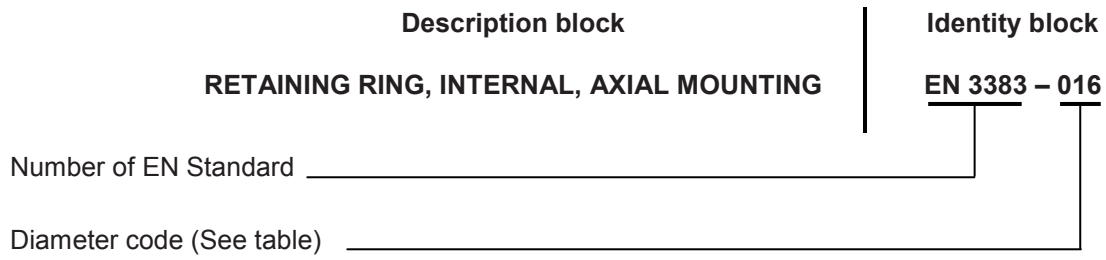
^b Corresponds to the nominal diameter (expressed in millimetres) of the bore in which the ring shall be mounted (see EN 3425).

^c Shall not exceed "A" max.

^d Approximate values, calculated on the basis of 7,85 kg/dm³, given for information purpose only.

4 Designation

EXAMPLE



NOTE If necessary, the originator code I9005 shall be placed between the description block and the identity block.

5 Marking

EN 2424, style G.

6 Technical specification

EN 3380

7 Mounting

EN 3425

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