



# SLOVENSKI STANDARD

## SIST EN 3383:2012

01-maj-2012

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**Aeronavtika - Varnostni obroči za osno pritrditev v okrogle odprtine, jekleni, vakuumsko kadmirani**

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

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

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

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**Ta slovenski standard je istoveten z: EN 3383:2012**

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**ICS:**

49.030.50

Podložke in drugi blokirni elementi

Washers and other locking elements

**SIST EN 3383:2012**

**en**

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EUROPEAN STANDARD

EN 3383

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2012

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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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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of an identical text or by endorsement, at the latest by September 2012, and conflicting national standards shall be withdrawn at the latest by September 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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**EN 3383:2012 (E)****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.

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**3.2 Materials**

Spring steel:

— 480–530 HV (Diameter codes 008 to 038)

— 440–510 HV (Diameter codes 040 to 165)

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**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.

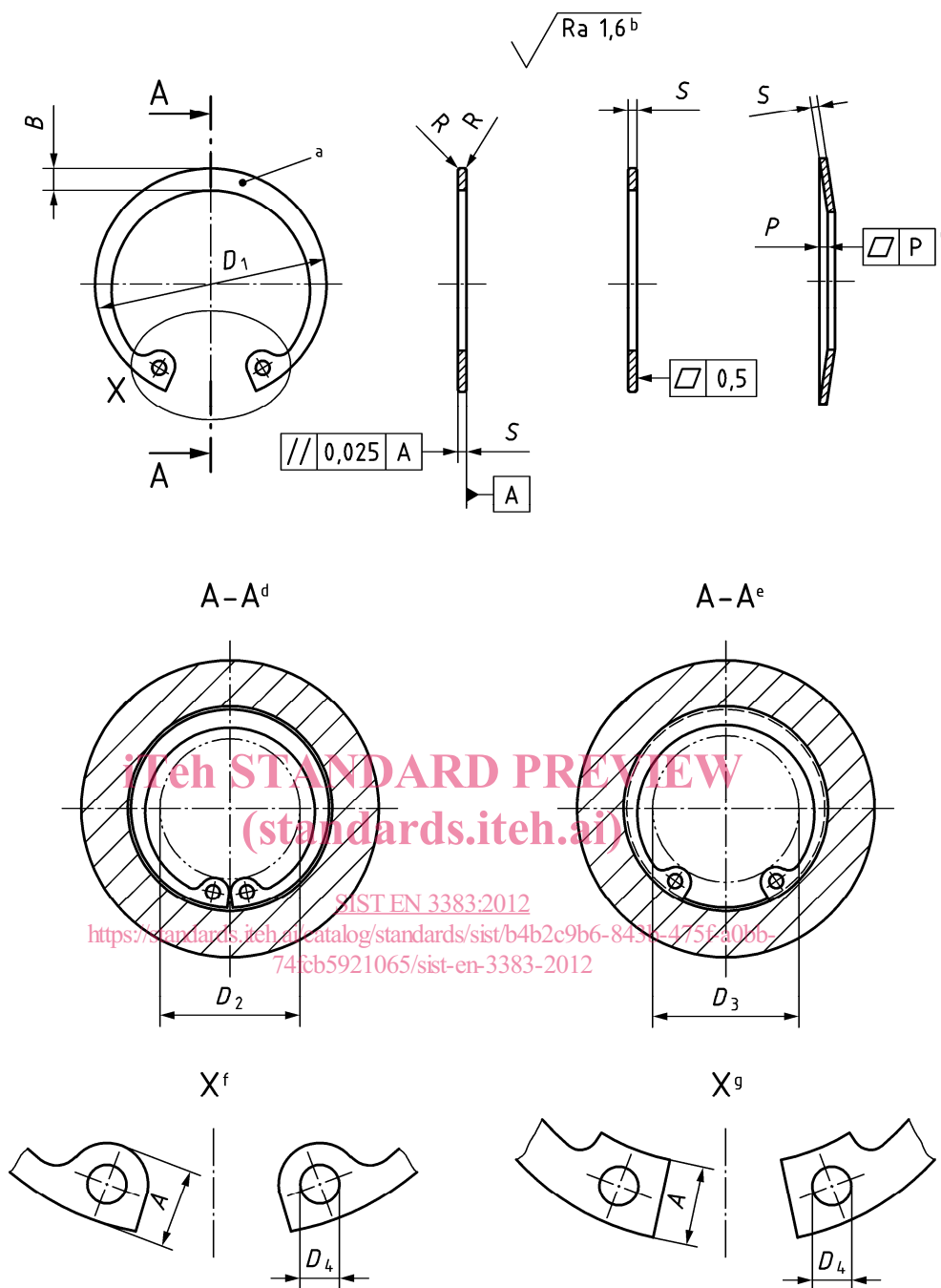


Figure 1

**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 <sup>b</sup>	A max.	B <sup>c</sup> ≈	D <sub>1</sub>		D <sub>2</sub> max.	D <sub>3</sub> max.	D <sub>4</sub> min.	P	S h11	R max.	Mass <sup>d</sup> 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				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				0,520						
015	3,7	2	16,2		7	8,3					0,560						
016	3,8	2	17,3		7,7	9,2	2				0,600						
017	3,9	2,1	18,3		8,4	10					0,650						
018	4,1	2,2	19,5	8,9	10,8	2		1,2			0,12	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	2			0,15	1,5		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	2						1,5	0,15	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	2								1,5	0,15	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	2	1,5									0,15	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		1,5			0,15						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			1,5	0,15							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	2						1,5	0,15				3,540
036	5,4	3,5	38,8	24,2	27,2												3,700
037	5,5	3,6	39,8	25	28	2								1,5	0,15		3,740
038	5,5	3,7	40,8	26	29												3,900
040	5,8	3,9	43,5	27,4	30,9	2,5	1,75									0,17	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	2,5		1,75			0,17						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	2,5			1,75	0,17							6,700
050	6,5	4,6	54,2	36	40												7,300
052	6,7	4,7	56,2	37,6	41,6	2,5						2	0,2				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	2,5								2	0,2		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	2,5	2									0,2	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	2,5		2			0,2						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	3			2,5	0,25							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	3						2,5	0,25				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											

<sup>a</sup> See page 7.<sup>b</sup> See page 7.<sup>c</sup> See page 7.<sup>d</sup> See page 7.



Table 1 (concluded)

Dimensions in millimetres

Diameter code <sup>b</sup>	A max.	B <sup>c</sup> ≈	D <sub>1</sub>		D <sub>2</sub> max.	D <sub>3</sub> max.	D <sub>4</sub> min.	P	S h11	R max.	Mass <sup>d</sup> kg/1 000 pieces
			nom.	Tol.							
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				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					55,000
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	115	119,6	86,000				
140	11,2	10,7	147	-0,63	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				

<sup>a</sup> Values apply after cadmium plating.

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

<sup>c</sup> Shall not exceed "A" max.

<sup>d</sup> Approximate values, calculated on the basis of 7,85 kg/dm<sup>3</sup>, given for information purpose only.