SLOVENSKI STANDARD
SIST EN 3384:2012

01-maj-2012

Aeronavtika - Varnostni obroči za zunanjo osno pritrditev, jekleni, fosfatirani

Aerospace series - Rings retaining, external, axial mounting, steel, phosphated

Luft- und Raumfahrt - Sicherungsringe, axial auf Wellen montierbar, aus Stahl, phosphatiert

Série aérospatiale - Anneaux d'arrêt, à montage axial, type extérieur, en acier, phosphatés

Ta slovenski standard je istoveten z: **EN 3384:2012**

ICS:

49.030.50	Podložke in drugi blokirni elementi	Washers and other locking elements

SIST EN 3384:2012 **en**

EUROPEAN STANDARD

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English Version

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 3384:2012) 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.

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1 Scope and field of application

This standard defines the characteristics of axial mounting external retaining rings, in steel, phosphated, for aerospace applications.

The phosphating restricts the use at temperatures not exceeding 200 °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 3380, *Aerospace series — Rings retaining — Technical specification*

EN 3426, *Aerospace series — Groove dimensions for axial mounting external 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)

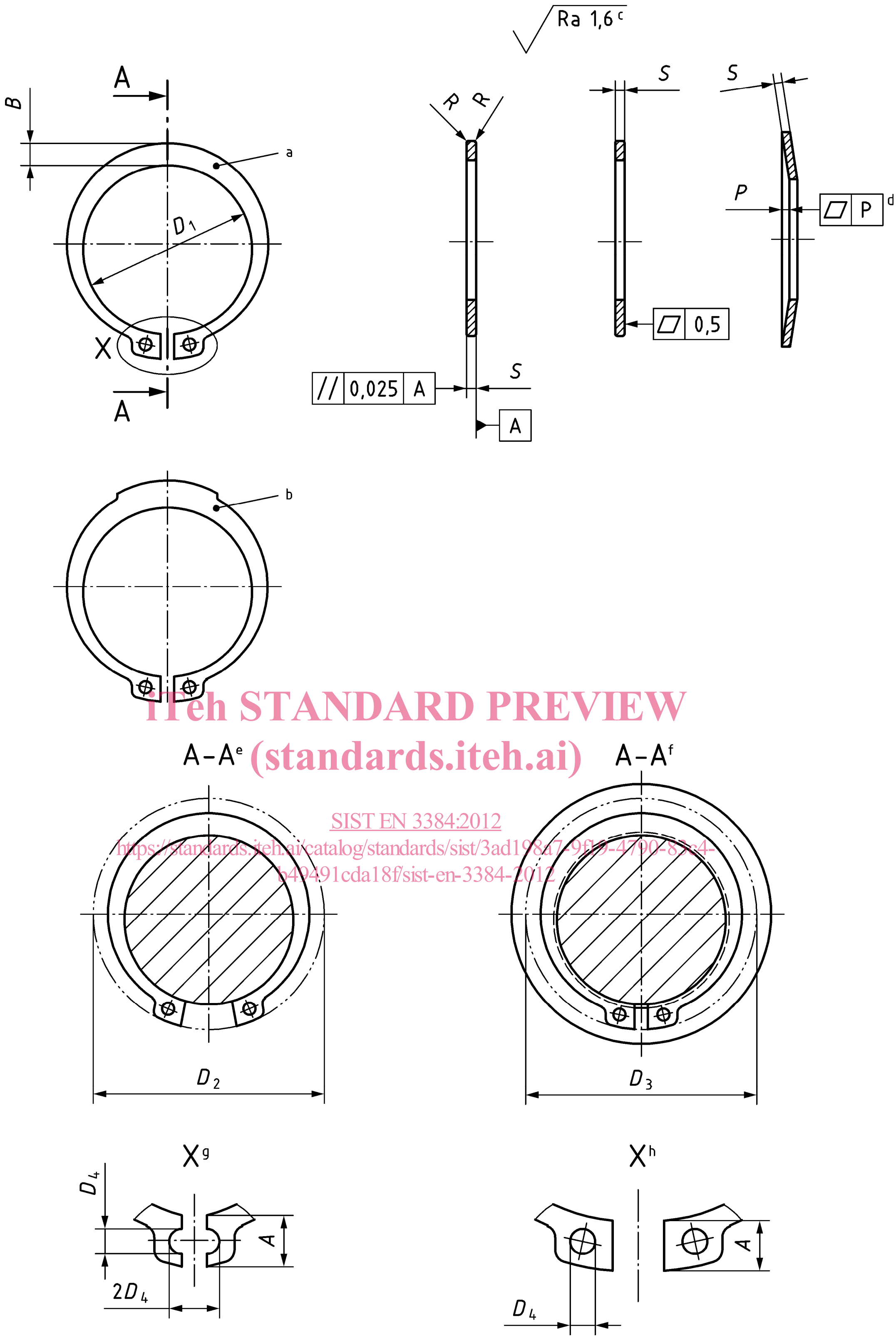
— 440–510 HV (Diameter codes 040 to 165)

3.3 Surface treatment

Phosphate to EN 2793, class A

Before storing, the ring shall be protected by grease or oil.

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



Key:

a Free

b Alternative configuration for size 40 mm to 165 mm

c Value in Micrometres, apply prior to phosphating

d Table

e At mounting

f Installed

g Diameter codes 003 to 009

h Diameter codes 010 to 165

Figure 1

Table 1

Dimensions in millimetres

Diameter code [b]	A max.	B [c] ≈	D_1 nom.	D_1 Tol.	D_2 max.	D_3 max.	D_4 min.	P	S h11	R max.	Mass [d] kg/1 000 pieces
003	1,9	0,8	2,7	+0,06 −0,12	7,2	6,6	0,8	0,1	0,4	0,04	0,017
004	2,2	0,9	3,7	+0,07 −0,15	8,8	8,2	1				0,022
005	2,5	1,1	4,7		10,7	9,8			0,6	0,06	0,066
006	2,7	1,3	5,6		12,2	11,1	1,15		0,7	0,07	0,084
007	3,1	1,4	6,5	+0,09 −0,18	13,8	12,9	1,2		0,8	0,08	0,121
008	3,2	1,5	7,4		15,2	14					0,158
009	3,3	1,7	8,4		16,4	15,2			1	0,1	0,300
010	3,3	1,8	9,3	+0,15 −0,3	17,6	16,2	1,5				0,340
011	3,3	1,8	10,2	+0,18 −0,36	18,6	17,1					0,410
012	3,3	1,8	11		19,6	18,1	1,7				0,500
013	3,4	2	11,9		20,8	19,2					0,530
014	3,5	2,1	12,9		22	20,4					0,640
015	3,6	2,2	13,8		23,2	21,5					0,670
016	3,7	2,2	14,7		24,4	22,6					0,700
017	3,8	2,3	15,7		25,6	23,8					0,820
018	3,9	2,4	16,5		26,8	24,8	2,5		1,2	0,12	1,110
019	3,9	2,5	17,5		27,8	25,8					1,220
020	4	2,6	18,5		29	27					1,300
021	4,1	2,7	19,5		30,2	28,2					1,420
022	4,2	2,8	20,5		31,4	29,4					1,500
024	4,4	3	22,2		33,8	31,7	2	0,15			1,770
025	4,4	3	23,2	+0,21 −0,42	34,8	32,7					1,900
026	4,5	3,1	24,2		36	33,9					1,960
028	4,7	3,2	25,9		38,4	36			1,5	0,15	2,920
029	4,8	3,4	26,9		39,6	37,2					3,200
030	5	3,5	27,9		41	38,6					3,320
032	5,2	3,6	29,6		43,4	40,7					3,540
034	5,4	3,8	31,5	+0,25 −0,5	45,8	43,1					3,800
035	5,6	3,9	32,2		47,2	44,2					4,000
036	5,6	4	33,2		48,2	45,2					5,000
038	5,8	4,2	35,2		50,6	47,6					5,620
040	6	4,4	36,5	+0,39 −0,78	53	49,5		0,2	1,75	0,17	6,030
042	6,5	4,5	38,5		56	52,5					6,500
045	6,7	4,7	41,5		59,4	55,9					7,500
048	6,9	5	44,5		62,8	59,3					7,900
050	6,9	5,1	45,8		64,8	60,8			2	0,2	10,200
052	7	5,2	47,8		67	63					11,100
055	7,2	5,4	50,8	+0,46 −0,92	70,4	66,4					11,400
056	7,3	5,5	51,8		71,6	67,6					11,800
058	7,3	5,6	53,8		73,6	69,6					12,600
060	7,4	5,8	55,8		75,8	71,8					12,900
062	7,5	6	57,8		78	74					14,300
063	7,6	6,2	58,8		79,2	75,2					15,900
065	7,8	6,3	60,8		81,6	77,6	3		2,5	0,25	18,200
068	8	6,5	63,5		85	81					21,800
070	8,1	6,6	65,5		87,2	83,2					22,000
072	8,2	6,8	67,5		89,4	85,4					22,500
075	8,4	7	70,5		92,8	88,8					24,600
077	8,5	7,2	72,5		95	91					25,700

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 max.	B [c] ≈	D_1 nom.	D_1 Tol.	D_2 max.	D_3 max.	D_4 min.	P	S h11	R max.	**Mass** [d] kg/1 000 pieces
078	8,6	7,3	73,5		96,2	92,2					26,200
080	8,6	7,4	74,5	+0,46 −0,92	98,2	93,7	3	0,2	2,5	0,25	27,300
082	8,7	7,6	76,5		101	95,9					31,200
085	8,7	7,8	79,5		104	98,9					36,400
087	8,8	7,9	81,5		106	101,1					39,800
088	8,8	8	82,5		107	102,1					41,200
090	8,8	8,2	84,5		109	104,1					44,500
092	9	8,4	86,5		111	106,5			3	0,3	46,000
095	9,4	8,6	89,5		115	110,3					49,000
097	9,4	8,8	91,5		117	112,3					50,200
098	9,5	9	92,5		119	113,5					51,800
100	9,6	9	94,5		121	115,7					53,700
102	9,7	9,2	95	+0,54 −1,08	123	117,4	3,5				78,000
105	9,9	9,3	98		126	120,8					80,000
107	10	9,5	100		129	123					81,000
108	10	9,5	101		130	124					81,500
110	10,1	9,6	103		132	126,2					82,000
112	10,3	9,7	105		134	128,6					83,000
115	10,6	9,8	108		138	132,2					84,000
117	10,8	10	110		140	134,6					85,000
118	10,9	10,1	111		141	135,8					85,500
120	11	10,2	113		143	138					86,000
122	11,2	10,3	115		146	140,4					88,000
125	11,4	10,4	118		149	143,8		0,25			90,000
127	11,4	10,5	120		151	145,8					95,000
128	11,5	10,5	121		152	147					98,000
130	11,6	10,7	123		155	149,2					100,000
132	11,7	10,8	125		157	151,4					103,000
135	11,8	11	128		160	154,6			4	0,4	104,000
137	11,9	11	130		162	156,8					107,000
138	11,9	11,1	131		163	157,8					108,000
140	12	11,2	133		165	160					110,000
142	12,1	11,3	135		168	162,2	4				112,000
145	12,2	11,5	138	+0,63 −1,26	171	165,4					115,000
147	12,3	11,6	140		173	167,6					116,000
148	12,4	11,7	141		174	168,8					118,000
150	13	11,8	142		177	171					120,000
152	13	11,9	143		178	173					128,000
155	13	12	146		182	176					135,000
157	13,1	12	148		183,2	178,2					140,000
158	13,1	12,1	149		184,2	179,2					145,000
160	13,3	12,2	151		188	181,6					150,000
162	13,3	12,3	152,5		188,6	183,6					155,000
165	13,5	12,5	155,5		193	187					160,000

a Values apply after phosphating.

b Corresponds to the nominal diameter (expressed in millimetres) of the shaft on which the ring shall be mounted (see EN 3426).

c Shall not exceed "A" max.

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