



Standard Part

Regular External Retaining Rings Metric - Preferred and Non-Preferred

STPN570

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1. SCOPE

The fasteners described in this standard are Regular Duty External Retaining Rings which conform essentially to Standard DIN 471. For reference dimensions refer to Table 1.

2. DEFINITIONS

DIN—German Standards Organization

3. RELATED DOCUMENTS

3.1 RELATED STANDARDS

DIN 471—External Regular Duty Metric Series Retaining Rings.
STPA020—Fastener Finishes and Material Specifications
Fiat 12241—Concentric External Retaining Rings Axially Assembled
Fiat 12245—External Retaining Rings

3.2 REPLACED STANDARDS

Case NM-031—External Regular Retaining Rings (Preferred)
NH FNHA-1-A-820.00—Retaining Ring, External

4. CROSS REFERENCE

For cross reference listing of company part numbers, go to [PARTsolutions](#).

5. REQUIREMENTS

5.1 MATERIAL

Retaining Rings shall be made from spring steel processed to meet the specified hardness ranges and be capable of meeting test requirements of the bend and fracture test set forth in DIN 471.

5.2 FINISH

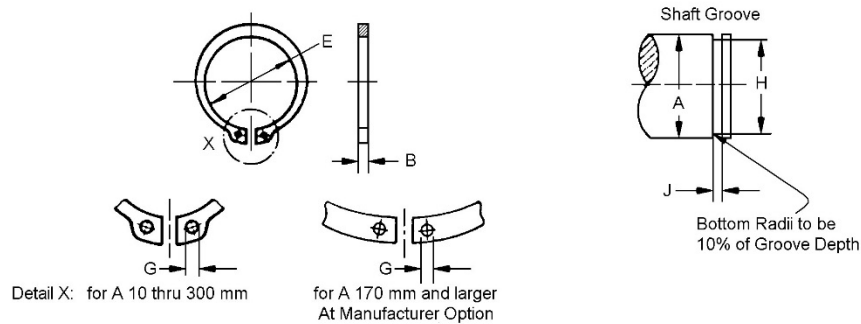
Retaining Rings shall be furnished coated or finished per STPA020.

6. PREFERRED PARTS

All preferred retaining rings shall have phosphate coated (PHC) finish.

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FIGURE 1: Regular External Retaining Ring
TABLE 1: Reference Dimensions

Shaft Size	Ring Dimensions					Groove Dimensions			
	A	B		E		G	H		J
Nom	Max	Min	Max	Min	Min	Max	Min	Max	Min
3	0.4	0.35	2.74	2.55	1	2.8	2.76	0.64	0.5
4	0.4	0.35	3.74	3.55	1	3.8	3.752	0.64	0.5
5	0.6	0.55	4.74	4.55	1	4.8	4.752	0.84	0.7
6	0.7	0.65	5.64	5.45	1.2	5.7	5.652	0.94	0.8
7	0.8	0.75	6.58	6.32	1.2	6.7	6.642	1.04	0.9
8	0.8	0.75	7.48	7.22	1.2	7.6	7.542	1.04	0.9
9	1	0.94	8.48	8.22	1.2	8.6	8.542	1.24	1.1
10	1	0.94	9.4	8.94	1.5	9.6	9.542	1.24	1.1
11	1	0.94	10.3	9.84	1.5	10.5	10.39	1.24	1.1
12	1	0.94	11.1	10.64	1.7	11.5	11.39	1.24	1.1
13	1	0.94	12.0	11.54	1.7	12.4	12.29	1.24	1.1
14	1	0.94	13.0	12.54	1.7	13.4	13.29	1.24	1.1
15	1	0.94	13.9	13.44	1.7	14.3	14.19	1.24	1.1
16	1	0.94	14.8	14.34	1.7	15.2	15.09	1.24	1.1
17	1	0.94	15.8	15.34	1.7	16.2	16.09	1.24	1.1
18	1.2	1.14	16.6	16.14	2	17	16.89	1.44	1.3
19	1.2	1.14	17.6	17.14	2	18	17.89	1.44	1.3
20	1.2	1.14	18.63	18.08	2	19	18.87	1.44	1.3
21	1.2	1.14	19.63	19.08	2	20	19.87	1.44	1.3
22	1.2	1.14	20.63	20.08	2	21	20.87	1.44	1.3
24	1.2	1.14	22.41	21.78	2	22.9	22.69	1.44	1.3
25	1.2	1.14	23.41	22.78	2	23.9	23.69	1.44	1.3
26	1.2	1.14	24.41	23.78	2	24.9	24.69	1.44	1.3
27	1.2	1.14	25.11	24.48	2	25.6	25.39	1.44	1.3
28	1.5	1.44	26.11	25.48	2	26.6	26.39	1.74	1.6
29	1.5	1.44	27.11	26.48	2	27.6	27.39	1.74	1.6
30	1.5	1.44	28.11	27.48	2	28.6	28.39	1.74	1.6
32	1.5	1.44	29.81	29.18	2.5	30.3	30.05	1.74	1.6
*33	1.5	1.44	30.75	30.0	2.5	31.3	31.05	1.74	1.6
34	1.5	1.44	31.75	31.0	2.5	32.3	32.05	1.74	1.6



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TABLE 1: Reference Dimensions (Continued)

Shaft Size	Ring Dimensions					Groove Dimensions			
	B		E		G	H		J	
A	Max	Min	Max	Min	Min	Max	Min	Max	Min
35	1.5	1.44	32.45	31.7	2.5	33	32.75	1.74	1.6
36	1.75	1.69	33.45	32.7	2.5	34	33.75	1.99	1.85
*37	1.75	1.69	34.45	33.7	2.5	35	34.75	1.99	1.85
38	1.75	1.69	35.45	34.7	2.5	36	35.75	1.99	1.85
*39	1.75	1.69	36.39	35.1	2.5	37.0	36.75	1.99	1.85
40	1.75	1.69	36.89	35.6	2.5	37.5	37.25	1.99	1.85
*41	1.75	1.69	37.89	36.6	2.5	38.5	38.25	1.99	1.85
42	1.75	1.69	38.89	37.6	2.5	39.5	39.25	1.99	1.85
*44	1.75	1.69	40.89	39.72	2.5	41.75	41.25	1.95	1.75
45	1.75	1.69	41.89	40.6	2.5	42.5	42.25	1.99	1.85
*47	1.75	1.69	43.89	42.6	2.5	44.5	44.25	1.99	1.85
48	1.75	1.69	44.89	43.6	2.5	45.5	45.25	1.99	1.85
50	2	1.93	46.19	44.9	2.5	47	46.75	2.33	2.15
52	2	1.93	48.19	46.9	2.5	49	48.75	2.33	2.15
55	2	1.93	51.26	49.7	2.5	52	51.7	2.33	2.15
56	2	1.93	52.26	50.7	2.5	53	52.7	2.33	2.15
58	2	1.93	54.26	52.7	2.5	55	54.7	2.33	2.15
60	2	1.93	56.26	54.7	2.5	57	56.7	2.33	2.15
62	2	1.93	58.26	56.7	2.5	59	58.7	2.33	2.15
63	2	1.93	59.26	57.7	2.5	60	59.7	2.33	2.15
65	2.5	2.43	61.26	59.7	3	62	61.7	2.83	2.65
68	2.5	2.43	63.96	62.4	3	65	64.7	2.83	2.65
70	2.5	2.43	65.96	64.4	3	67	66.7	2.83	2.65
72	2.5	2.43	67.96	66.4	3	69	68.7	2.83	2.65
75	2.5	2.43	70.96	69.4	3	72	71.7	2.83	2.65
78	2.5	2.43	73.96	72.4	3	75	74.7	2.83	2.65
80	2.5	2.43	74.96	73.4	3	76.5	76.2	2.83	2.65
82	2.5	2.43	76.96	75.4	3	78.5	78.2	2.83	2.65
85	3	2.92	79.96	78.4	3.5	81.5	81.15	3.33	3.15
88	3	2.92	83.04	81.2	3.5	84.5	84.15	3.33	3.15
90	3	2.92	85.04	83.2	3.5	86.5	86.15	3.33	3.15
*92	3	2.92	87.04	85.2	3.5	88.5	88.15	3.33	3.15
95	3	2.92	90.04	88.2	3.5	91.5	91.15	3.33	3.15
97	3	2.92	92.04	90.2	3.5	93.5	93.15	3.33	3.15
100	3	2.92	95.04	93.2	3.5	96.5	96.15	3.33	3.15
105	4	3.9	98.54	96.7	3.5	101	100.46	4.33	4.15
110	4	3.9	103.54	101.7	3.5	106	105.46	4.33	4.15
115	4	3.9	108.54	106.7	3.5	111	110.46	4.33	4.15
120	4	3.9	113.54	111.7	3.5	116	115.46	4.33	4.15
125	4	3.9	118.54	116.7	4	121	120.37	4.33	4.15
*127	4	3.9	120.54	118.7	4	123	122.37	4.33	4.15
130	4	3.9	123.63	121.5	4	126	125.37	4.33	4.15
135	4	3.9	128.63	126.5	4	131	130.37	4.33	4.15
140	4	3.9	133.63	131.5	4	136	135.37	4.33	4.15

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TABLE 1: Reference Dimensions (Continued)

Shaft Size	Ring Dimensions					Groove Dimensions			
	A	B		E		G	H		J
Nom	Max	Min	Max	Min	Min	Max	Min	Max	Min
145	4	3.9	138.63	136.5	4	141	140.37	4.33	4.15
150	4	3.9	142.63	140.5	4	145	144.37	4.33	4.15
155	4	3.9	146.63	144.5	4	150	149.37	4.33	4.15
160	4	3.9	151.63	149.5	4	155	154.37	4.33	4.15
165	4	3.9	156.13	155.0	4	160	159.37	4.33	4.15
170	4	3.9	161.13	159.0	4	165	164.37	4.33	4.15
175	4	3.9	166.13	164.0	4	170	169.37	4.33	4.15
180	4	3.9	171.13	169.0	4	175	174.37	4.33	4.15
185	4	3.9	176.13	174.0	4	180	179.37	4.33	4.15
190	4	3.9	181.22	178.8	4	185	184.28	4.33	4.15
195	4	3.9	186.22	183.8	4	190	189.28	4.33	4.15
200	4	3.9	191.22	188.8	4	195	194.28	4.33	4.15
210	5	4.88	198.72	196.3	4	204	203.28	5.33	5.15
220	5	4.88	208.72	206.3	4	214	213.28	5.33	5.15
230	5	4.88	218.72	216.3	4	224	223.28	5.33	5.15
240	5	4.88	228.72	226.3	4	234	233.28	5.33	5.15
250	5	4.88	238.72	236.3	4	244	243.28	5.33	5.15
260	5	4.88	245.72	243.3	5	252	251.19	5.33	5.15
270	5	4.88	255.81	253.3	5	262	261.19	5.33	5.15
280	5	4.88	265.81	263.0	5	272	271.19	5.33	5.15
290	5	4.88	275.81	273.0	5	282	281.19	5.33	5.15
300	5	4.88	285.81	283.0	5	292	291.19	5.33	5.15

*Not a Standard Size in DIN 471



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TABLE 2: Regular External Retaining Rings - Preferred

Shaft Dia.	Finish	Part Number
4	PHC	51551026
6	PHC	86507012
8	PHC	9990741
10	PHC	3991509
12	PHC	300624
15	PHC	301615
17	PHC	370016
18	PHC	84021874
19	PHC	300627
20	PHC	370024
22	PHC	370001
25	PHC	370002
27	PHC	47538588
28	PHC	300629
30	PHC	370003
35	PHC	370004
38	PHC	300632
40	PHC	370006
45	PHC	370007
50	PHC	370008
55	PHC	327911
58	PHC	382102

Shaft Dia.	Finish	Part Number
60	PHC	370027
62	PHC	412068
65	PHC	301624
70	PHC	300636
72	PHC	84078051
75	PHC	300637
80	PHC	370009
88	PHC	87304174
90	PHC	300639
95	PHC	300640
97	PHC	51463258
100	PHC	370010
110	PHC	86836491
115	PHC	48138352
120	PHC	47985966
150	PHC	90371231
160	PHC	87531736
170	PHC	51481426
180	PHC	79113060
190	PHC	48068863
200	PHC	92082796



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TABLE 3: Regular External Retaining Rings – Non-Preferred

Shaft Dia.	Finish	Part Number
3	BLO	11065176
5	DAC	11065374
5	BLO	11065376
6	ZNM	87016942
6	DAC	11065474
6	BLO	11065476
7	BLO	11065576
8	ZNM	11065671
8	DAC	11065674
8	BLO	11065676
9	PLN	87477173
9	BLO	11065776
10	ZNM	11065971
10	DAC	11065974
10	BLO	11065976
11	DAC	11065874
11	BLO	11065876
12	DAC	11066074
12	ZNM	11066071
12	PLN	11066070
12	PLN	47572964&
12	PHC/ZND	11066073
12	BLO	11066076
13	PLN	11066170
13	ZNM	11066171
13	PHC/ZND	11066173
13	DAC	11066174
13	BLO	11066176
14	BLO	11066276
14	ZNM	11066271
15	PLN	47563353&
16	BLO	11066476
16	PLN	11066470
16	ZNM	11066471
16	DAC	11066474
17	ZNM	11066571
17	DAC	11066574
18	ZNM	11066671
18	DAC	11066674
18	BLO	11066676
19	BLO	11066776
20	PLN	11066870
20	ZNM	11066871
20	BLO	11066876
21	DAC	11066974
21	BLO	11066976

Shaft Dia.	Finish	Part Number
24	ZNM	11067271
24	DAC	11067274
24	BLO	11067276
25	ZNM	11067371
25	DAC	11067374
25	BLO	11067376
25	BGM	92138948
26	ZNM	11067471
26	BLO	11067476
28	DAC	48074969
29	BLO	11067776
30	DAC	92195367
30	PLN	11067870
30	ZNM	11067871
30	BLO	11067876
32	BLO	11068076
*33	BLO	51455367
34	BLO	11068276
35	ZNM	11068371
36	BLO	11068476
*37	PHC	47478072
38	DAC	11068674
38	BLO	11068676
40	DAC	92154900
42	BLO	11068976
*44	PHC	84524639
45	BLO	#11386776
45	DAC	#11386774
45	BLO	11069076
45	ZNM	11069071
*47	PHC	51678604
48	BLO	11069276
50	ZNM	11069371
50	BLO	11069376
52	PLN	11069470
52	BLO	11069476
52	DAC	11069474
55	BLO	#10597776
55	DAC	#10597774
55	ZNM	83956614
56	BLO	11069676
56	ZNM	11069671
60	BLO	#10577976

*Not a Standard Size in DIN 471

#Refer to Fiat 12241 for Dimensions & Material SST



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TABLE 3: Regular External Retaining Rings – Non-Preferred (Continued)

Shaft Dia.	Finish	Part Number
60	ZNM	86990332
60	DAC	11069874
63	BLO	11070176
65	ZNM	11070071
68	BLO	11070276
72	ZNM	11072075
78	BLO	11070776
80	ZNM	87033224
82	BLO	11081876
85	BLO	11071076
90	PLN	11071370
90	DAC	11071374
90	BLO	11071376
*92	PHC	84224889
95	ZNM	11071571
105	ZNM	87032544
105	DAC	11082174
105	BLO	11082176
110	BLO	11082476
110	ZNM	11082575
115	BLO	11082676
115	DAC	92741982
115	PLN	11082670
125	BLO	11083176
*127	PHC	84198540
130	ZNM	47997484
135	ZNM	11083675
140	ZNM	47770711

*Not a Standard Size in DIN 471