

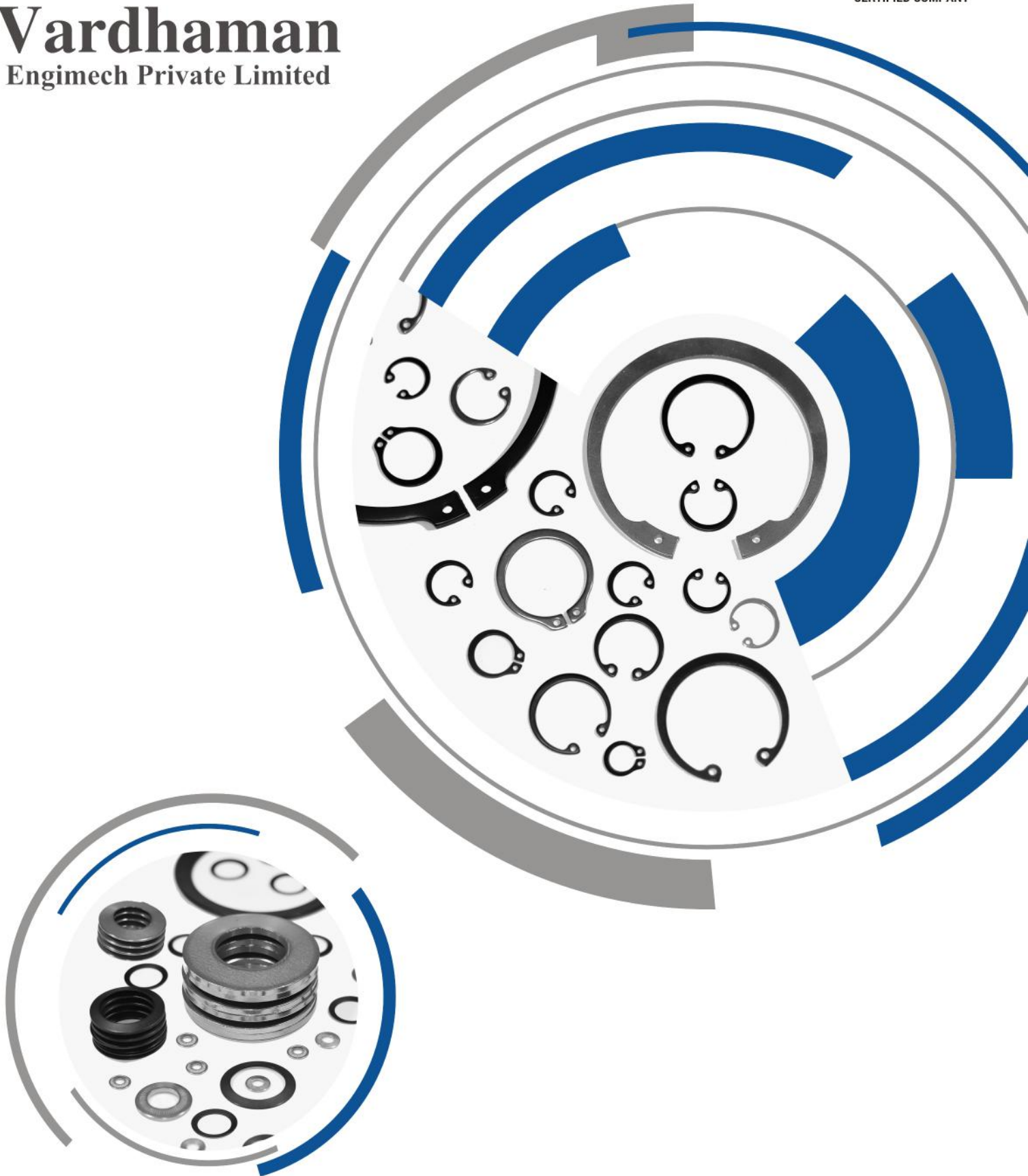


Vardhaman

Engimech Private Limited



ISO 9001 - 2015
CERTIFIED COMPANY

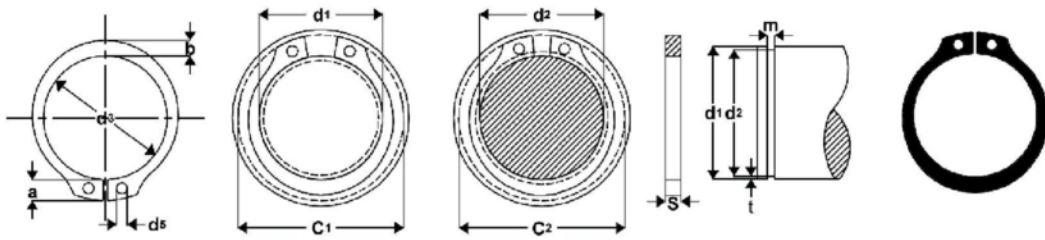




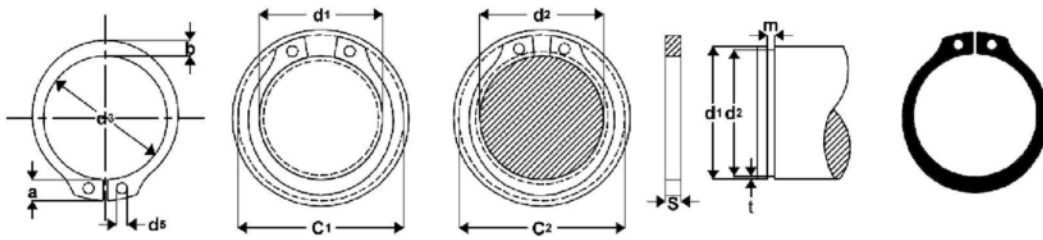
Index

/// DIN 471 Circlips External	01
/// DIN 472 Circlips Internal	04
/// DIN 983 K-Type Circlips External	08
/// DIN 984 K-Type Circlips Internal	09
/// DIN 6799 E - Clips	10
/// DIN 2093 Disc Springs	11
/// DIN 6796 Belleville Washers	12
/// NF E 25 - 511 Contact Washers	13
/// DIN 6797 A / J Tooth Lock Washers	14
/// DIN 6798 A / J Serrated Lock Washers	15
/// Wave Washers for Bearings	16
/// DIN 137 A / B Wave Washers	17
/// DIN 6904 Curved Spring Washers	18
/// DIN 6905 Spring Lock Washers	18
/// DIN 127 Spring Washers	19
/// DIN 93 Tab Washers	20
/// DIN 125 Flat Washers	21
/// DIN 433 Plain Washers	22
/// DIN 436 Plain Washers (Square)	22
/// DIN 1440 / DIN 1441 Plain Washers	23
/// DIN 6902 Type A / B / C Plain Washers	24
/// DIN 9021 Plain Washers	24
/// DIN 988 Shims	25
/// Sheet Metal Components	27

d ₁	S	TOL.	d ₂	TOL.	a max.	b									
5	0.60	-0.05	4.7	+0.04	2.5	1.1	1.0	10.3	9.8	0.066	4.8	-0.04	0.70	0.10	
6	0.70		5.6		2.7	1.3	1.2	11.7	11.1	0.084	5.7		0.80	0.15	
7	0.80		6.5	-0.15	3.1	1.4	1.2	13.5	12.9	0.121	6.7		0.90	0.15	
8	0.80		7.4		3.2	1.5	1.2	14.7	14.0	0.158	7.6		0.90	0.20	
9	1.00	-0.06	8.4	+0.06	3.3	1.7	1.2	16.0	15.2	0.300	8.6	-0.06	1.10	0.20	
10	1.00		9.3		3.3	1.8	1.5	17.0	16.2	0.340	9.6		1.10	0.20	
11	1.00		10.2	-0.18	3.3	1.8	1.5	18.0	17.1	0.410	10.5	1.10	0.25		
12	1.00		11.0		3.3	1.8	1.7	19.0	18.1	0.500	11.5	1.10	0.25		
13	1.00		11.9	+0.10	3.4	2.0	1.7	20.2	19.2	0.530	12.4	-0.11	1.10	0.30	
14	1.00		12.9		3.5	2.1	1.7	21.4	20.4	0.640	13.4		1.10	0.30	
15	1.00		13.8		3.6	2.2	1.7	22.6	21.5	0.670	14.3		1.10	0.35	
16	1.00		14.7		3.7	2.2	1.7	23.8	22.6	0.700	15.2		1.10	0.40	
17	1.00		15.7		-0.36	3.8	2.3	1.7	25.0	23.8	0.820		16.2	1.10	0.40
18	1.20		16.5			3.9	2.4	2.0	26.2	24.8	1.110		17.0	1.30	0.50
19	1.20		17.5		3.9	2.5	2.0	27.2	25.8	1.220	18.0		1.30	0.50	
20	1.20		18.5		4.0	2.6	2.0	28.4	27.0	1.300	19.0		1.30	0.50	
21	1.20		19.5		4.1	2.7	2.0	29.6	28.2	1.420	20.0		1.30	0.50	
22	1.20		20.5		+0.13	4.2	2.8	2.0	30.8	29.4	1.500		21.0	-0.13	1.30
23	1.20		21.5	4.3		2.9	2.0	32.0	30.6	1.630	22.0	1.30	0.50		
24	1.20		22.2	-0.42	4.4	3.0	2.0	33.2	31.7	1.770	22.9	1.30	0.55		
25	1.20	23.2	4.4		3.0	2.0	34.2	32.7	1.900	23.9	-0.15	1.30	0.55		
26	1.20	24.2	+0.21	4.5	3.1	2.0	35.5	33.9	1.960	24.9	-0.21	1.30	0.55		
27	1.20	24.9		4.6	3.1	2.0	36.7	34.8	2.080	25.6		1.30	0.70		
28	1.50	25.9		4.7	3.2	2.0	37.9	36.0	2.920	26.6		1.60	0.70		
29	1.50	26.9		4.8	3.4	2.0	39.1	37.2	3.200	27.6		1.60	0.70		
30	1.50	27.9		-0.42	5.0	3.5	2.0	40.5	38.6	3.320		28.6	1.60	0.70	
31	1.50	28.6			5.1	3.5	2.5	41.7	40.9	3.450		29.3	1.60	0.85	
32	1.50	29.6		5.2	3.6	2.5	43.0	40.9	3.540	30.3		1.60	0.85		
33	1.50	30.5		5.2	3.7	2.5	44.0	41.7	3.690	31.3		1.60	0.85		
34	1.50	31.5	5.4	3.8	2.5	45.4	43.1	3.800	32.3	1.60	0.85				
35	1.50	32.2	+0.25	5.6	3.9	2.5	46.8	44.2	4.000	33.0	-0.25	1.60	1.00		
36	1.75	33.2		5.6	4.0	2.5	47.8	45.2	5.000	34.0		1.85	1.00		
37	1.75	34.2		5.7	4.1	2.5	49.0	47.0	5.370	35.0		1.85	1.00		
38	1.75	35.2		5.8	4.2	2.5	50.2	47.6	5.620	36.0		1.85	1.00		
39	1.75	36.0		-0.50	5.9	4.3	2.5	51.4	48.5	5.850		37.0	1.85	1.00	
40	1.75	36.5			6.0	4.4	2.5	52.6	49.5	6.030		37.5	1.85	1.25	
41	1.75	37.5		6.2	4.5	2.5	54.0	51.5	6.215	38.5		1.85	1.25		
42	1.75	38.5		6.5	4.5	2.5	55.7	52.5	6.500	39.5		-0.25	1.85	1.25	
44	1.75	40.5		6.6	4.6	2.5	57.9	55.4	7.000	41.5		1.85	1.25		
45	1.75	41.5		6.7	4.7	2.5	59.1	55.9	7.500	42.5		1.85	1.25		
46	1.75	42.5	6.7	4.8	2.5	60.1	56.9	7.600	43.5	1.85	1.25				
47	1.75	43.5	6.8	4.9	2.5	61.3	58.1	7.500	44.5	1.85	1.25				
48	1.75	44.5	6.9	5.0	2.5	62.5	59.3	7.900	45.5	1.85	1.25				
50	2.00	-0.07	45.8	6.9	5.1	2.5	64.5	60.8	10.20	47.0	2.15	1.50			
52	2.00		47.8	7.0	5.2	2.5	66.7	63.0	11.10	49.0	2.15	1.50			
54	2.00		49.8	7.1	5.3	2.5	69.0	65.2	11.30	51.0	-0.30	2.15	1.50		
55	2.00		50.8	7.2	5.4	2.5	70.2	66.4	11.40	52.0	2.15	1.50			

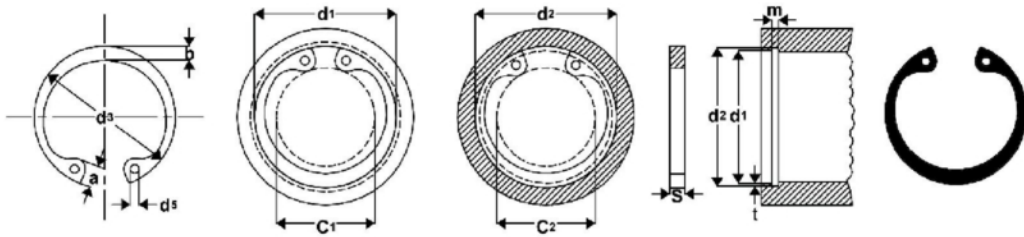


d ₁	S	TOL.	d ₃	TOL.	a max.	b											
56	2.00	-0.07	51.8	+0.46 -1.10	7.3	5.5	2.5	71.6	67.6	11.80	53.0	-0.30	2.15	1.50			
57	2.00		52.8		7.3	5.5	2.5	72.3	69.3	12.20	54.0		2.15	1.50			
58	2.00		53.8		7.3	5.6	2.5	73.6	69.6	12.60	55.0		2.15	1.50			
60	2.00		55.8		7.4	5.8	2.5	75.6	71.8	12.90	57.0		2.15	1.50			
62	2.00		57.8		7.5	6.0	2.5	77.8	74.0	14.30	59.0		2.15	1.50			
63	2.00		58.8		7.6	6.2	2.5	79.0	75.2	15.90	60.0		2.15	1.50			
65	2.50		60.8		7.8	6.3	3.0	81.4	77.6	18.20	62.0		2.65	1.50			
67	2.50		62.5		7.9	6.4	3.0	83.6	79.8	20.30	64.0		2.65	1.50			
68	2.50		63.5		8.0	6.5	3.0	84.4	81.0	21.80	65.0		2.65	1.50			
70	2.50		65.5		8.1	6.6	3.0	87.0	83.2	22.00	67.0		2.65	1.50			
72	2.50		67.5		8.2	6.8	3.0	89.2	85.4	22.50	69.0		2.65	1.50			
75	2.50		70.5		8.4	7.0	3.0	92.7	88.8	24.60	72.0		2.65	1.50			
77	2.50		72.5		8.5	7.2	3.0	94.9	91.0	25.70	74.0		2.65	1.50			
78	2.50		73.5		8.6	7.3	3.0	96.1	92.2	26.20	75.0		2.65	1.50			
80	2.50		74.5		8.6	7.4	3.0	98.1	93.7	27.30	76.5		2.65	1.75			
82	2.50	76.5	8.7	7.6	3.0	100.3	95.9	31.20	78.5	2.65	1.75						
85	3.00	-0.08	79.5	+0.54 -1.30	8.7	7.8	3.5	103.3	98.9	36.40	81.5	-0.35	3.15	1.75			
87	3.00		81.5		8.8	7.9	3.5	105.5	100.9	39.80	83.5		3.15	1.75			
88	3.00		82.5		8.8	8.0	3.5	106.5	102.0	41.20	84.5		3.15	1.75			
90	3.00		84.5		8.8	8.2	3.5	108.5	104.0	44.50	86.5		3.15	1.75			
92	3.00		86.5		9.0	8.4	3.5	110.9	107.4	46.00	88.5		3.15	1.75			
95	3.00		89.5		9.4	8.6	3.5	114.8	111.0	49.0	91.5		3.15	1.75			
97	3.00		91.5		9.4	8.8	3.5	116.7	113.2	50.2	93.5		3.15	1.75			
98	3.00		91.5		9.4	8.8	3.5	118.6	114.0	50.2	94.5		3.15	1.75			
100	3.00		94.5		9.6	9.0	3.5	120.2	116.0	53.7	96.5		3.15	1.75			
102	4.00		-0.10		95.0	+0.63 -1.50	9.7	9.2	3.5	122.4	118.0		78.0	98.0	-0.54	4.15	2.00
105	4.00				98.0		9.9	9.3	3.5	126.2	122.0		80.0	101.0		4.15	2.00
107	4.00				100.0		10.0	9.5	3.5	128.0	124.0		81.0	103.0		4.15	2.00
108	4.00				100.0		10.0	9.5	3.5	129.0	124.0		81.0	104.0		4.15	2.00
110	4.00				103.0		10.1	9.6	3.5	131.2	127.0		82.0	106.0		4.15	2.00
112	4.00				105.0		10.3	9.7	3.5	133.6	129.6		83.0	108.0		4.15	2.00
115	4.00	108.0		10.6	9.8		3.5	137.3	133.0	84.0	111.0	4.15	2.00				
117	4.00	110.0		10.8	10.0		3.5	139.7	135.7	85.0	113.0	4.15	2.00				
118	4.00	110.0		10.8	10.0		3.5	140.7	136.7	85.0	114.0	4.15	2.00				
120	4.00	113.0		11.0	10.2		3.5	143.1	138.0	86.0	116.0	4.15	2.00				
122	4.00	115.0		11.2	10.3		4.0	145.5	141.5	88.0	118.0	4.15	2.00				
125	4.00	118.0		11.4	10.4		4.0	149.0	144.0	90.0	121.0	4.15	2.00				
127	4.00	120.0		11.4	10.5		4.0	150.9	146.8	95.0	123.0	4.15	2.00				
128	4.00	120.0		11.4	10.5		4.0	151.9	147.9	95.0	124.0	4.15	2.00				
130	4.00	123.0		11.6	10.7		4.0	154.4	150.0	100.0	126.0	4.15	2.00				
132	4.00	125.0	11.7	10.8	4.0	156.6	152.6	103.0	128.0	4.15	2.00						
135	4.00	128.0	11.8	11.0	4.0	159.8	155.0	104.0	131.0	4.15	2.00						
137	4.00	130.0	11.9	11.0	4.0	162.0	158.0	107.0	133.0	4.15	2.00						
138	4.00	130.0	11.9	11.0	4.0	163.0	159.0	107.0	134.0	4.15	2.00						
140	4.00	133.0	12.0	11.2	4.0	165.2	160.0	110.0	136.0	4.15	2.00						
142	4.00	135.0	12.1	11.3	4.0	167.4	163.4	112.0	138.0	4.15	2.00						
145	4.00	138.0	12.2	11.5	4.0	170.6	166.0	115.0	141.0	4.15	2.00						

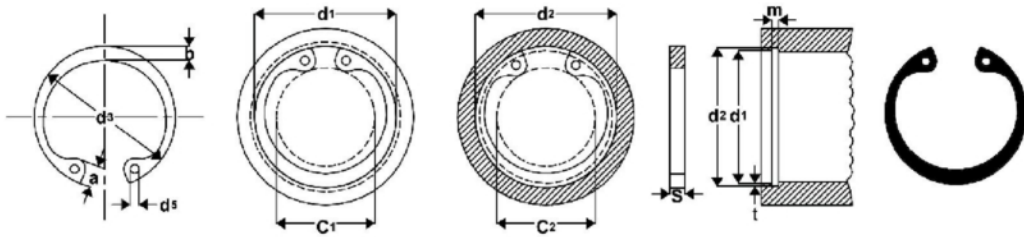


d ₁	S	TOL.	d ₃	TOL.	a max.	b								
147	4.00	-0.10	140.0	+0.63 -1.50	12.3	11.6	4.0	172.8	168.8	116.0	143.0	-0.63	4.15	2.00
148	4.00		140.0		12.3	11.6	4.0	173.8	169.8	116.0	144.0		4.15	2.00
150	4.00		142.0		13.0	11.8	4.0	177.3	171.0	120.0	145.0		4.15	2.50
152	4.00		143.0		13.0	11.9	4.0	179.3	174.3	128.0	147.0		4.15	2.50
155	4.00		146.0		13.0	12.0	4.0	182.3	176.0	135.0	150.0		4.15	2.50
157	4.00		148.0		13.1	12.0	4.0	184.5	179.5	140.0	152.0		4.15	2.50
158	4.00		148.0		13.1	12.0	4.0	185.5	180.5	140.0	153.0		4.15	2.50
160	4.00		151.0		13.3	12.2	4.0	188.0	182.0	150.0	155.0		4.15	2.50
162	4.00		152.5		13.3	12.3	4.0	189.9	184.9	155.0	157.0		4.15	2.50
165	4.00		155.5		13.5	12.5	4.0	193.5	187.0	160.0	160.0		4.15	2.00
167	4.00		157.5		13.5	12.9	4.0	195.3	190.3	163.0	162.0		4.15	2.50
168	4.00		157.5		13.5	12.9	4.0	196.3	191.3	163.0	163.0		4.15	2.50
170	4.00		160.5		13.5	12.9	4.0	198.4	192.0	170.0	165.0		4.15	2.50
172	4.00		160.5		13.5	12.9	4.0	200.4	195.3	170.0	167.0		4.15	2.50
175	4.00		165.5		13.5	12.9	4.0	203.4	197.0	180.0	170.0		4.15	2.50
177	4.00		167.5		14.2	13.5	4.0	206.8	202.0	183.0	172.0		4.15	2.50
178	4.00		167.5		14.2	13.5	4.0	207.8	203.0	183.0	173.0		4.15	2.50
180	4.00		170.5		14.2	13.5	4.0	210.0	204.0	190.0	175.0		4.15	2.50
182	4.00		170.5		14.2	13.5	4.0	211.8	207.0	190.0	177.0		4.15	2.50
185	4.00		175.5		14.2	13.5	4.0	215.2	209.0	200.0	180.0		4.15	2.00
187	4.00	177.5	14.2	14.0	4.0	216.8	212.0	203.0	182.0	-0.72	4.15	2.50		
188	4.00	177.5	14.2	14.0	4.0	217.8	213.0	203.0	183.0		4.15	2.50		
190	4.00	180.5	14.2	14.0	4.0	220.0	214.0	210.0	185.0		4.15	2.50		
192	4.00	180.5	14.2	14.0	4.0	221.8	217.0	210.0	187.0		4.15	2.50		
195	4.00	185.5	14.2	14.0	4.0	225.0	219.0	220.0	190.0		4.15	2.50		
197	4.00	187.5	14.2	14.0	4.0	226.8	222.0	223.0	192.0		4.15	2.50		
198	4.00	187.5	14.2	14.0	4.0	227.8	223.0	223.0	193.0		4.15	2.50		
200	4.00	190.5	14.2	14.0	4.0	230.0	224.0	230.0	195.0		4.15	2.50		

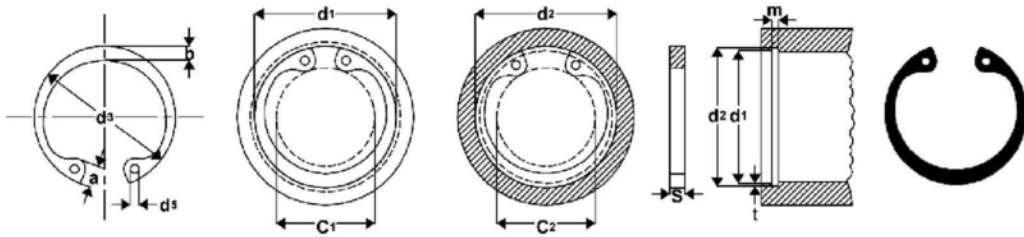
d _i	S	TOL.	d _s	TOL.	a max.	b						TOL.		
8	0.80	-0.05	8.7		2.4	1.1	1.0	3.0	3.6	0.10	8.4	+0.09	0.90	0.20
9	0.80		9.8		2.5	1.3	1.0	3.7	4.4	0.13	9.4		0.90	0.20
10	1.00		10.8		3.2	1.4	1.2	3.3	4.0	0.26	10.4		1.10	0.20
11	1.00	-0.06	11.8		3.3	1.5	1.2	4.1	4.8	0.31	11.4	+0.11	1.10	0.20
12	1.00		13.0		3.4	1.7	1.5	4.9	5.7	0.37	12.5		1.10	0.25
13	1.00		14.1		3.6	1.8	1.5	5.4	6.4	0.42	13.6		1.10	0.30
14	1.00		15.1		3.7	1.8	1.7	6.2	7.2	0.52	14.6		1.10	0.30
15	1.00		16.2		3.7	2.0	1.7	7.2	8.3	0.56	15.7		1.10	0.35
16	1.00		17.3		3.8	2.0	1.7	8.0	9.2	0.60	16.8		1.10	0.40
17	1.00		18.3		3.9	2.1	1.7	8.8	10.0	0.65	17.8		1.10	0.40
18	1.00		19.5		4.1	2.2	2.0	9.4	10.8	0.74	19.0		1.10	0.50
19	1.00		20.5		4.1	2.2	2.0	10.4	11.8	0.83	20.0		1.10	0.50
20	1.00		21.5		4.1	2.3	2.0	11.2	12.6	0.90	21.0		1.10	0.50
21	1.00	22.5	4.2	2.4	2.0	12.2	13.6	1.00	22.0	1.10	0.50			
22	1.00	23.5	4.2	2.5	2.0	13.2	14.6	1.10	23.0	1.10	0.50			
23	1.20	24.6	4.2	2.5	2.0	14.2	15.7	1.34	24.1	1.30	0.55			
24	1.20	25.9	4.3	2.6	2.0	14.8	16.4	1.42	25.2	1.30	0.60			
25	1.20	26.9	4.5	2.7	2.0	15.5	17.2	1.50	26.2	1.30	0.60			
26	1.20	27.9	4.7	2.8	2.0	16.1	17.8	1.60	27.2	1.30	0.60			
27	1.20	29.1	4.7	2.9	2.0	17.1	19.0	1.75	28.4	1.30	0.70			
28	1.20	30.1	4.8	2.9	2.0	17.9	19.8	1.80	29.4	1.30	0.70			
29	1.20	31.1	4.8	3.0	2.0	18.9	20.8	1.88	30.4	1.30	0.70			
30	1.20	32.1	4.8	3.0	2.0	19.9	21.8	2.06	31.4	1.30	0.70			
31	1.20	33.4	5.2	3.1	2.5	20.0	22.3	2.10	32.7	1.30	0.85			
32	1.20	34.4	5.4	3.2	2.5	20.6	22.9	2.21	33.7	1.30	0.85			
33	1.20	35.5	5.4	3.3	2.5	21.6	23.9	2.40	34.7	1.30	0.85			
34	1.50	36.5	5.4	3.3	2.5	22.6	24.9	3.20	35.7	1.60	0.85			
35	1.50	37.8	5.4	3.4	2.5	23.6	26.2	3.54	37.0	1.60	1.00			
36	1.50	38.8	5.4	3.5	2.5	24.6	27.2	3.70	38.0	1.60	1.00			
37	1.50	39.8	5.5	3.6	2.5	25.4	28.0	3.74	39.0	1.60	1.00			
38	1.50	40.8	5.5	3.7	2.5	26.4	29.0	3.90	40.0	1.60	1.00			
39	1.50	42.0	5.6	3.8	2.5	27.3	29.8	4.00	41.0	1.60	1.00			
40	1.75	43.5	5.8	3.9	2.5	27.8	30.9	4.70	42.5	1.85	1.25			
41	1.75	44.5	5.9	4.0	2.5	28.6	31.7	5.10	43.5	1.85	1.25			
42	1.75	45.5	5.9	4.1	2.5	29.6	32.7	5.40	44.5	1.85	1.25			
43	1.75	46.5	5.9	4.2	2.5	30.6	33.7	5.60	45.5	1.85	1.25			
44	1.75	47.5	6.0	4.2	2.5	31.4	34.5	5.80	46.5	1.85	1.25			
45	1.75	48.5	6.2	4.3	2.5	32.0	35.1	6.00	47.5	1.85	1.25			
46	1.75	49.5	6.3	4.4	2.5	32.8	35.9	6.05	48.5	1.85	1.25			
47	1.75	50.5	6.4	4.4	2.5	33.5	36.7	6.10	49.5	1.85	1.25			
48	1.75	51.5	6.4	4.5	2.5	34.5	37.7	6.70	50.5	1.85	1.25			
50	2.00	54.2	6.5	4.6	2.5	36.3	40.0	7.30	53.0	1.85	1.50			
51	2.00	55.2	6.5	4.7	2.5	37.3	41.0	7.75	54.0	2.15	1.50			
52	2.00	56.2	6.7	4.7	2.5	37.9	41.6	8.20	55.0	2.15	1.50			
53	2.00	57.2	6.7	4.9	2.5	39.0	42.6	8.22	56.0	2.15	1.50			
54	2.00	58.2	6.7	5.0	2.5	40.0	43.6	8.25	57.0	2.15	1.50			



d ₁	S	TOL.	d ₃	TOL.	a max.	b						TOL.		
55	2.00	-0.07	59.2	+1.10 -0.46	6.8	5.0	2.5	40.7	44.4	8.30	58.0	+0.30	2.15	1.50
56	2.00		60.2		6.8	5.1	2.5	41.7	45.4	8.80	59.0		2.15	1.50
57	2.00		61.2		6.8	5.1	2.5	42.7	46.4	9.40	60.0		2.15	1.50
58	2.00		62.2		6.9	5.2	2.5	43.5	47.2	10.50	61.0		2.15	1.50
60	2.00		64.2		7.3	5.4	2.5	44.7	48.4	11.10	63.0		2.15	1.50
62	2.00		66.2		7.3	5.5	2.5	46.7	50.4	11.20	65.0		2.15	1.50
63	2.00		67.2		7.3	5.6	2.5	47.7	51.4	12.40	66.0		2.15	1.50
64	2.00		68.2		7.4	5.7	2.5	48.7	52.4	12.45	67.0		2.15	1.50
65	2.50		69.2		7.6	5.8	3.0	49.0	52.8	14.30	68.0		2.65	1.50
67	2.50		71.5		7.7	6.0	3.0	50.8	54.6	15.30	70.0		2.65	1.50
68	2.50		72.5		7.8	6.1	3.0	51.6	55.4	16.00	71.0		2.65	1.50
70	2.50		74.5		7.8	6.2	3.0	53.6	57.4	16.50	73.0		2.65	1.50
72	2.50		76.5		7.8	6.4	3.0	55.6	59.4	18.10	75.0		2.65	1.50
75	2.50		79.5		7.8	6.6	3.0	58.6	62.4	18.80	78.0		2.65	1.50
77	2.50		82.5		8.5	6.8	3.0	59.2	63.0	20.40	80.0		2.65	1.50
78	2.50	82.5	8.5	6.8	3.0	60.1	64.0	20.40	81.0	2.65	1.50			
80	2.50	85.5	8.5	7.0	3.0	62.1	66.5	22.00	83.5	2.65	1.75			
81	2.50	86.5	8.5	7.0	3.0	62.2	67.5	23.00	84.5	2.65	1.75			
82	2.50	87.5	8.5	7.0	3.0	64.1	68.5	24.00	85.5	2.65	1.75			
83	2.50	88.5	8.5	7.0	3.0	65.2	69.5	25.00	86.5	2.65	1.75			
85	3.00	-0.08	90.5	+1.30 -0.54	8.6	7.2	3.5	66.9	71.3	25.30	88.5	+0.35	3.15	1.75
87	3.00		93.5		8.6	7.4	3.5	69.0	73.3	31.00	90.5		3.15	1.75
88	3.00		93.5		8.6	7.4	3.5	69.9	74.3	31.00	91.5		3.15	1.75
90	3.00		95.5		8.6	7.6	3.5	71.9	76.3	33.00	93.5		3.25	1.75
92	3.00		97.5		8.7	7.8	3.5	73.7	78.1	35.00	95.5		3.15	1.75
95	3.00		100.5		8.8	8.1	3.5	76.5	80.9	37.00	98.5		3.15	1.75
97	3.00		103.5		9.0	8.3	3.5	78.1	82.5	41.00	100.5		3.15	1.75
98	3.00		103.5		9.0	8.3	3.5	79.0	83.5	41.00	101.5		3.15	1.75
100	3.00		105.5		9.2	8.4	3.5	80.6	85.1	42.00	103.5		3.15	1.75
102	4.00		-0.10		108.0	+1.50 -0.63	9.5	8.5	3.5	82.0	87.0		55.00	106.0
105	4.00	112.0		9.5	8.7		3.5	85.0	90.0	56.0	109.0	4.15	2.00	
107	4.00	115.0		9.5	8.9		3.5	87.0	92.0	60.0	111.0	4.15	2.00	
108	4.00	115.0		9.5	8.9		3.5	88.0	93.0	60.0	112.0	4.15	2.00	
110	4.00	117.0		10.4	9.0		3.5	88.2	93.2	64.5	114.0	4.15	2.00	
112	4.00	119.0		10.5	9.1		3.5	90.0	95.0	72.0	116.0	4.15	2.00	
115	4.00	122.0		10.5	9.3		3.5	93.0	98.0	74.5	119.0	4.15	2.00	
117	4.00	125.0		10.7	9.6		3.5	94.6	99.6	75.5	121.0	4.15	2.00	
118	4.00	125.0		10.7	9.6		3.5	95.6	100.6	75.5	122.0	4.15	2.00	
120	4.00	127.0		11.0	9.7		3.5	96.9	102.0	77.0	124.0	4.15	2.00	
122	4.00	129.0	11.0	9.8	4.0	98.0	104.0	78.0	126.0	4.15	2.00			
125	4.00	132.0	11.0	10.0	4.0	101.9	107.0	79.0	129.0	4.15	2.00			
127	4.00	135.0	11.0	10.0	4.0	103.9	109.0	81.0	131.0	4.15	2.00			
128	4.00	135.0	11.0	10.2	4.0	104.9	110.0	81.0	132.0	4.15	2.00			
130	4.00	137.0	11.0	10.2	4.0	106.9	112.0	82.0	134.0	4.15	2.00			
132	4.00	139.0	11.0	10.3	4.0	108.9	114.0	83.0	136.0	4.15	2.00			
135	4.00	142.0	11.2	10.5	4.0	111.5	116.0	84.0	139.0	4.15	2.00			



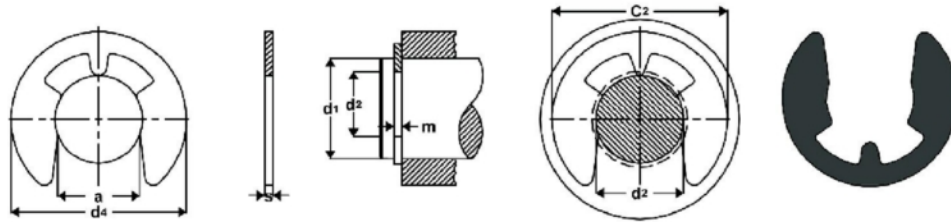
d ₁	S	TOL.	d ₃	TOL.	a max.	b						TOL.		
137	4.00	-0.10	145.0	+1.50 -0.63	11.2	10.6	4.0	113.5	118.6	86.0	141.0	+0.63	4.15	2.00
138	4.00		145.0		11.2	10.6	4.0	114.5	119.6	86.0	142.0		4.15	2.00
140	4.00		147.0		11.2	10.7	4.0	116.5	121.0	87.5	144.0		4.15	2.00
142	4.00		149.0		11.3	10.8	4.0	118.3	123.4	89.0	146.0		4.15	2.00
145	4.00		152.0		11.4	10.9	4.0	121.0	126.0	93.0	149.0		4.15	2.00
147	4.00		155.0		11.8	11.1	4.0	122.2	127.4	100.0	151.0		4.15	2.00
148	4.00		155.0		11.8	11.1	4.0	123.2	128.4	100.0	152.0		4.15	2.00
150	4.00		158.0		12.0	11.2	4.0	124.8	131.0	105.0	155.0		4.15	2.50
152	4.00		161.0		12.0	11.3	4.0	126.8	133.0	106.0	157.0		4.15	2.50
155	4.00		164.0		12.0	11.4	4.0	129.8	136.0	107.0	160.0		4.15	2.50
157	4.00		167.0		12.3	11.5	4.0	131.2	137.4	109.0	162.0		4.15	2.50
158	4.00		167.0		12.3	11.5	4.0	132.2	138.4	109.0	163.0		4.15	2.50
160	4.00		169.0		13.0	11.6	4.0	132.7	139.0	110.0	165.0		4.15	2.50
162	4.00		171.5		13.0	11.7	4.0	134.7	141.0	118.0	167.0		4.15	2.50
165	4.00		174.5		13.0	11.8	4.0	137.7	144.0	125.0	170.0		4.15	2.50
167	4.00		177.5		13.5	12.1	4.0	138.7	145.0	135.0	172.0		4.15	2.50
168	4.00		177.5		13.5	12.1	4.0	139.7	146.0	135.0	173.0		4.15	2.50
170	4.00		179.5		13.5	12.2	4.0	141.6	148.0	140.0	175.0		4.15	2.50
172	4.00		181.5		13.5	12.5	4.0	143.6	150.0	145.0	177.0		4.15	2.50
175	4.00		184.5		13.5	12.7	4.0	146.6	153.0	150.0	180.0		4.15	2.50
177	4.00	187.5	14.2	12.9	4.0	147.0	153.6	162.0	182.0	4.15	2.50			
178	4.00	187.5	14.2	12.9	4.0	148.0	154.6	162.0	183.0	4.15	2.50			
180	4.00	189.5	14.2	13.2	4.0	150.2	156.0	165.0	185.0	4.15	2.50			
182	4.00	191.5	14.2	13.5	4.0	152.0	158.6	168.0	187.0	4.15	2.50			
185	4.00	194.5	14.2	13.7	4.0	155.2	161.0	170.0	190.0	4.15	2.50			
187	4.00	197.5	14.2	13.8	4.0	157.0	163.6	174.0	192.0	4.15	2.50			
188	4.00	197.5	14.2	13.8	4.0	158.0	164.6	174.0	193.0	4.15	2.50			
190	4.00	199.5	14.2	13.8	4.0	160.2	166.0	175.0	195.0	4.15	2.50			
192	4.00	201.5	14.2	13.8	4.0	162.0	168.6	178.0	197.0	4.15	2.50			
195	4.00	204.5	14.2	13.8	4.0	165.2	171.0	183.0	200.0	4.15	2.50			
197	4.00	207.5	14.2	14.0	4.0	166.0	173.6	190.0	202.0	4.15	2.50			
198	4.00	207.5	14.2	14.0	4.0	168.0	174.6	190.0	203.0	4.15	2.50			
200	4.00	209.5	14.2	14.0	4.0	170.2	176.0	195.0	205.0	4.15	2.50			
202	5.00	-0.12	214.0	+1.70 -0.72	14.2	14.0	4.0	172.0	179.6	210.0	208.0	+0.72	5.15	3.00
205	5.00		217.0		14.2	14.0	4.0	175.0	182.6	225.0	211.0		5.15	3.00
207	5.00		217.0		14.2	14.0	4.0	177.0	184.6	225.0	213.0		5.15	3.00
208	5.00		222.0		14.2	14.0	4.0	178.0	185.6	270.0	214.0		5.15	3.00
210	5.00		222.0		14.2	14.0	4.0	180.2	187.0	270.0	216.0		5.15	3.00
212	5.00		222.0		14.2	14.0	4.0	182.0	189.6	270.0	218.0		5.15	3.00
215	5.00		227.0		14.2	14.0	4.0	185.0	192.6	300.0	221.0		5.15	3.00
217	5.00		227.0		14.2	14.0	4.0	187.0	194.6	300.0	223.0		5.15	3.00
218	5.00		232.0		14.2	14.0	4.0	188.0	195.6	315.0	224.0		5.15	3.00
220	5.00		232.0		14.2	14.0	4.0	190.2	197.0	315.0	226.0		5.15	3.00
222	5.00		232.0		14.2	14.0	4.0	192.0	199.6	315.0	228.0		5.15	3.00
225	5.00		237.0		14.2	14.0	4.0	195.0	202.6	323.0	231.0		5.15	3.00
227	5.00		237.0		14.2	14.0	4.0	195.0	204.6	323.0	233.0		5.15	3.00



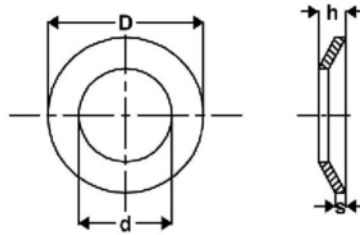
d _i	S	TOL.	d _s	TOL.	a max.	b						TOL.		
228	5.00	-0.12	242.0	+1.70	14.2	14.0	4.0	198.0	205.6	330.0	234.0	+0.72	5.15	3.00
230	5.00		242.0	-0.72	14.2	14.0	4.0	200.2	207.0	330.0	236.0		5.15	3.00
232	5.00		242.0	+2.00	14.2	14.0	4.0	202.0	209.6	330.0	238.0		5.15	3.00
235	5.00		247.0		14.2	14.0	4.0	205.0	212.6	338.0	241.0		5.15	3.00
237	5.00		247.0		14.2	14.0	4.0	207.0	214.6	338.0	243.0		5.15	3.00
238	5.00		252.0		14.2	14.0	4.0	208.0	215.6	345.0	244.0		5.15	3.00
240	5.00		252.0		14.2	14.0	4.0	210.2	217.0	345.0	246.0		5.15	3.00
242	5.00		252.0		14.2	14.0	4.0	212.0	219.6	345.0	248.0		5.15	3.00
245	5.00		257.0		14.2	14.0	4.0	215.0	222.6	353.0	251.0		5.15	3.00
247	5.00		257.0		14.2	14.0	4.0	217.0	224.6	353.0	253.0	5.15	3.00	
248	5.00		262.0		14.2	14.0	4.0	218.0	225.6	360.0	254.0	5.15	3.00	
250	5.00		262.0		14.2	14.0	4.0	220.2	227.0	360.0	256.0	5.15	3.00	
252	5.00		262.0		14.2	16.0	5.0	222.0	231.6	360.0	260.0	5.15	4.00	
255	5.00		270.0		16.2	16.0	5.0	222.0	231.6	368.0	263.0	5.15	4.00	
257	5.00		270.0		16.2	16.0	5.0	223.0	232.6	368.0	265.0	5.15	4.00	
258	5.00		275.0		16.2	16.0	5.0	224.0	233.6	375.0	266.0	5.15	4.00	
260	5.00		275.0		16.2	16.0	5.0	226.0	235.0	375.0	268.0	5.15	4.00	
262	5.00		275.0		16.2	16.0	5.0	228.0	237.6	375.0	270.0	5.15	4.00	
265	5.00	280.0	16.2		16.0	5.0	231.0	240.6	383.0	273.0	5.15	4.00		
267	5.00	280.0	16.2		16.0	5.0	233.0	242.6	383.0	275.0	5.15	4.00		
268	5.00	285.0	16.2	16.0	5.0	234.0	243.6	388.0	276.0	5.15	4.00			
270	5.00	285.0	16.2	16.0	5.0	236.0	245.0	388.0	278.0	5.15	4.00			
272	5.00	285.0	16.2	16.0	5.0	238.0	247.6	388.0	280.0	+0.81	5.15	4.00		
275	5.00	290.0	16.2	16.0	5.0	241.0	250.6	393.0	283.0	5.15	4.00			
277	5.00	290.0	16.2	16.0	5.0	243.0	252.6	393.0	285.0	5.15	4.00			
278	5.00	295.0	16.2	16.0	5.0	244.0	253.6	400.0	286.0	5.15	4.00			
280	5.00	295.0	16.2	16.0	5.0	246.0	255.0	400.0	288.0	5.15	4.00			
282	5.00	295.0	16.2	16.0	5.0	248.0	257.6	400.0	290.0	5.15	4.00			
285	5.00	300.0	16.2	16.0	5.0	251.0	260.0	408.0	293.0	5.15	4.00			
287	5.00	300.0	16.2	16.0	5.0	253.0	262.6	408.0	295.0	5.15	4.00			
288	5.00	305.0	16.2	16.0	5.0	254.0	263.6	415.0	296.0	5.15	4.00			
290	5.00	305.0	16.2	16.0	5.0	256.0	265.0	415.0	298.0	5.15	4.00			
292	5.00	305.0	16.2	16.0	5.0	258.0	267.6	415.0	300.0	5.15	4.00			
295	5.00	310.0	16.2	16.0	5.0	261.0	270.6	426.0	303.0	5.15	4.00			
297	5.00	310.0	16.2	16.0	5.0	263.0	272.6	426.0	305.0	5.15	4.00			
298	5.00	315.0	16.2	16.0	5.0	264.0	273.6	435.0	306.0	5.15	4.00			
300	5.00	315.0	16.2	16.0	5.0	266.0	275.0	435.0	308.0	5.15	4.00			

d ₁	s		d ₃		a max.	b									
16	1.00	-0.06	14.7		3.5	2.3	1.7	23.2	22.2	0.82	15.2	-0.11	1.10	0.40	
17	1.00		15.7		+0.10	3.6	2.4	1.7	24.4	23.4	0.93		16.2	1.10	0.40
18	1.20		16.5		-0.36	3.7	2.5	2.0	25.6	24.4	1.24		17.0	1.30	0.50
19	1.20		17.5		3.7	2.6	2.0	26.6	25.4	1.35	18.0		1.30	0.50	
20	1.20		18.5	+0.13	3.8	2.6	2.0	27.8	26.6	1.45	19.0	-0.15	1.30	0.50	
22	1.20		20.5		-0.42	4.0	2.8	2.0	30.2	29.0	1.77		21.0	1.30	0.50
23	1.20		21.5	+0.21	4.1	2.9	2.0	31.4	30.2	1.84	22.0	-0.21	1.30	0.50	
24	1.20		22.2		-0.42	4.2	3.0	2.0	32.6	31.3	1.98		22.9	1.30	0.55
25	1.20		23.2	-0.42	4.3	3.0	2.0	33.8	32.5	2.12	23.9		1.30	0.55	
26	1.20		24.2			4.4	3.1	2.0	35.0	33.7	2.18		24.9	1.30	0.55
28	1.50		25.9	+0.21	4.5	3.3	2.0	37.3	35.6	3.15	26.6	-0.21	1.60	0.70	
29	1.50		26.9		-0.42	4.7	3.4	2.0	38.7	37.0	3.35		27.6	1.60	0.70
30	1.50		27.9	-0.42	4.7	3.4	2.0	39.7	37.9	3.65	28.6	-0.25	1.60	0.70	
32	1.50		29.6			5.0	3.6	2.5	42.4	40.3	4.00		30.3	1.60	0.85
34	1.50		31.5	+0.25	5.1	3.8	2.5	44.6	42.5	4.15	32.3	-0.25	1.60	0.85	
35	1.50		32.2		-0.50	5.2	3.8	2.5	45.8	43.4	4.38		33.0	1.60	1.00
37	1.75		34.2	-0.50	5.4	4.0	2.5	48.2	45.8	6.30	35.0	-0.25	1.85	1.00	
38	1.75		35.2			5.5	4.1	2.5	49.4	47.0	6.50		36.0	1.85	1.00
40	1.75		36.5	+0.39	7.2	4.2	2.5	54.9	51.9	7.00	37.5	-0.25	1.85	1.25	
42	1.75		38.5		-0.90	7.2	4.5	2.5	56.9	53.9	7.50		39.5	1.85	1.25
45	1.75		41.5	-0.90	7.2	4.6	2.5	59.9	56.9	8.50	42.5	-0.25	1.85	1.25	
47	1.75		43.5			7.2	4.8	2.5	61.9	58.9	8.70		44.5	1.85	1.25
48	1.75		44.5	+0.39	7.2	4.9	2.5	62.9	59.9	8.90	45.5	-0.25	1.85	1.25	
50	2.00		45.8		-0.90	8.2	5.0	2.5	67.0	63.4	11.55		47.0	2.15	1.50
55	2.00		50.8	+0.46	8.2	5.4	2.5	72.0	68.4	12.99	52.0	-0.30	2.15	1.50	
57	2.00		52.8		-1.10	8.2	5.6	2.5	74.0	70.4	14.00		54.0	2.15	1.50
58	2.00		53.8	-1.10	8.2	5.7	2.5	75.0	71.4	14.30	55.0	-0.30	2.15	1.50	
60	2.00		55.8			8.2	5.8	2.5	77.0	73.4	14.80		57.0	2.15	1.50
62	2.00		57.8	+0.46	8.2	5.9	2.5	79.0	75.4	15.90	59.0	-0.30	2.15	1.50	
65	2.50		60.8		-1.10	10.2	6.2	3.0	86.0	82.4	21.70		62.0	2.65	1.50
67	2.50		62.5	-1.10	10.2	6.4	3.0	88.0	84.4	22.60	64.0	-0.30	2.65	1.50	
68	2.50		63.5			10.2	6.5	3.0	89.0	85.4	23.50		65.0	2.65	1.50
70	2.50		65.5	-0.07	10.2	6.6	3.0	91.0	87.4	25.10	67.0	-0.35	2.65	1.50	
75	2.50		70.5			10.2	7.0	3.0	96.2	92.4	28.20		72.0	2.65	1.50
80	2.50	74.5	-0.08	10.2	7.4	3.0	101.2	96.9	30.75	76.5	-0.35	2.65	1.75		
85	3.00	79.5			10.2	7.8	3.5	106.2	101.9	39.50		81.5	3.15	1.75	
90	3.00	84.5	-0.08	10.2	8.2	3.5	111.2	106.9	47.70	86.5	-0.35	3.15	1.75		
95	3.00	89.5			10.2	8.6	3.5	116.2	111.9	53.00		91.5	3.15	1.75	
			94.5						56.60	96.5					
			103.0						84.60	106.0					
			113.0						89.70	116.0					
			123.0						105.00	126.0					
			133.0						115.00	136.0					

d ₁	S	TOL.	d ₂	TOL.	a max.	b								
16	1.00	-0.06	17.3	+0.42	3.4	2.1	1.7	9.0	10.0	0.72	16.8	+0.11	1.10	0.40
17	1.00		18.3		3.7	2.2	1.7	9.4	10.4	0.80	17.8		1.10	0.40
18	1.00		19.5		4.1	2.3	2.0	9.6	10.8	0.90	19.0	+0.15	1.10	0.50
19	1.00		20.5		3.8	2.3	2.0	11.2	12.4	0.99	20.0		1.10	0.50
20	1.00		21.5		3.9	2.4	2.0	12.0	13.2	1.06	21.0		1.10	0.50
21	1.00		22.5		4.0	2.4	2.0	12.8	14.0	1.17	22.0		1.10	0.50
22	1.00		23.5		4.0	2.6	2.0	13.8	15.0	1.28	23.0		1.10	0.50
23	1.20		24.6	4.1	2.6	2.0	14.6	15.9	1.48	24.1	1.30	0.55		
24	1.20		25.9	4.2	2.6	2.0	15.4	16.8	1.60	25.2	+0.21	1.30	0.60	
25	1.20		26.9	4.4	2.8	2.0	16.0	17.4	1.72	26.2		1.30	0.60	
26	1.20		28.5	4.4	2.8	2.0	17.0	18.4	2.00	27.2		1.30	0.60	
27	1.20		29.1	4.5	2.9	2.0	17.8	19.4	2.00	28.4		1.30	0.70	
28	1.20		30.1	4.9	3.0	2.0	18.0	19.6	2.10	29.4	1.30	0.70		
30	1.20		32.1	4.9	3.2	2.0	20.0	21.6	2.35	31.4	+0.25	1.30	0.70	
31	1.20		33.4	5.0	3.2	2.5	20.8	22.7	2.42	32.7		1.30	0.85	
32	1.20		34.4	5.1	3.3	2.5	21.5	23.5	2.50	33.7		1.30	0.85	
33	1.20		35.5	5.1	3.3	2.5	22.5	24.5	2.65	34.7		1.30	0.85	
34	1.50		36.5	5.3	3.4	2.5	23.1	25.1	3.80	35.7		1.60	0.85	
35	1.50		37.8	5.5	3.6	2.5	23.7	26.0	4.00	37.0		1.60	1.00	
36	1.50		38.8	5.6	3.6	2.5	24.5	26.8	4.15	38.0		1.60	1.00	
38	1.50		40.8	6.1	3.8	2.5	25.5	27.8	4.40	40.0		1.60	1.00	
40	1.75		43.5	7.2	4.0	2.5	25.2	28.1	5.30	42.5		1.85	1.25	
42	1.75		45.5	7.2	4.1	2.5	27.2	30.1	6.00	44.5		1.85	1.25	
44	1.75		47.5	7.2	4.2	2.5	29.3	32.1	6.45	46.5	1.85	1.25		
45	1.75		48.5	7.2	4.3	2.5	30.3	33.1	6.60	47.5	1.85	1.25		
47	1.75		50.5	7.2	4.5	2.5	32.3	35.1	6.90	49.5	1.85	1.25		
48	1.75		51.5	7.2	4.5	2.5	33.3	36.1	7.50	50.5	1.85	1.25		
50	2.00	54.2	8.2	4.7	2.5	33.3	36.6	8.50	53.0	2.15	1.50			
52	2.00	56.2	8.2	4.7	2.5	35.2	38.6	9.40	55.0	2.15	1.50			
55	2.00	59.2	8.2	5.1	2.5	38.2	41.6	9.75	58.0	2.15	1.50			
57	2.00	61.2	8.2	5.2	2.5	40.2	43.6	11.65	60.0	2.15	1.50			
58	2.00	62.2	8.2	5.3	2.5	41.2	44.6	12.00	61.0	2.15	1.50			
60	2.00	64.2	8.2	5.5	2.5	43.2	46.6	12.70	63.0	2.15	1.50			
62	2.00	66.2	8.2	5.6	2.5	45.2	48.6	12.75	65.0	2.15	1.50			
65	2.50	69.2	10.2	5.8	3.0	44.1	47.6	16.70	68.0	2.65	1.50			
67	2.50	71.5	10.2	6.0	3.0	46.1	49.6	18.60	70.0	2.65	1.50			
68	2.50	72.5	10.2	6.1	3.0	47.1	50.6	19.30	71.0	2.65	1.50			
70	2.50	74.5	10.2	6.2	3.0	49.1	52.6	20.20	73.0	2.65	1.50			
								21.20	75.0					
								22.60	78.0					
								25.00	83.5					
								30.10	88.5					
								35.50	93.5					
								40.00	98.5					
								43.50	103.5					

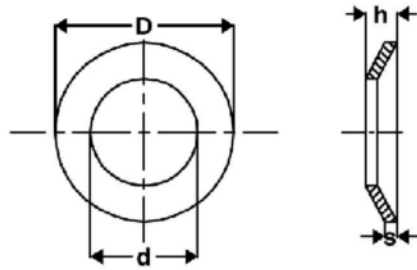


d_1	d_1		s	TOL.	d_1 max.	a	TOL.	C_2	kg/1000	d_2	TOL.	m min.
	from	to										
1.2	1.4	2.0	0.30	± 0.02	2.90	1.01	± 0.04	3.0	0.009	1.2	-0.060	0.34
1.5	2.0	2.5	0.40		3.90	1.28		4.0	0.021	1.5		0.44
1.9	2.5	3.0	0.50		4.40	1.61		4.5	0.040	1.9		0.54
2.3	3.0	4.0	0.60		5.90	1.94		6.0	0.069	2.3		0.64
3.2	4.0	5.0	0.60		6.90	2.70	7.0	0.088	3.2	0.64	-0.075	
4.0	5.0	7.0	0.70		8.85	3.34	9.0	0.158	4.0	0.74		
5.0	6.0	8.0	0.70		10.85	4.11	11.0	0.236	5.0	0.74		
6.0	7.0	9.0	0.70		11.80	5.26	12.0	0.255	6.0	0.74		
7.0	8.0	11.0	0.90		13.80	5.84	14.0	0.474	7.0	0.94	-0.090	
8.0	9.0	12.0	1.00		15.75	6.52	16.0	0.660	8.0	1.05		
9.0	10.0	14.0	1.10	18.20	7.63	18.5	1.000	9.0	1.15			
10.0	11.0	15.0	1.20	19.70	8.32	20.0	1.120	10.0	1.25			
12.0	13.0	18.0	1.30	± 0.03	22.70	10.45	23.0	1.770	12.0	1.35	-0.110	
15.0	16.0	24.0	1.50		28.70	12.61	29.0	3.370	15.0	1.55		
19.0	20.0	31.0	1.75		36.50	15.92	37.0	6.420	19.0	1.80	-0.130	
24.0	25.0	38.0	2.00		43.50	21.88	44.0	8.550	24.0	2.05		



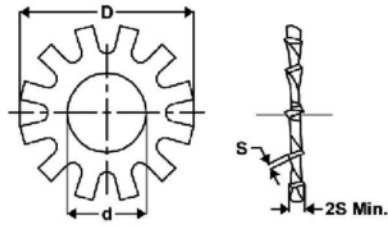
Type A				
D	d	s	h	Spring Force in Newtons F
8	4.2	0.4	0.6	21
10	5.2	0.5	0.75	34
12.5	6.2	0.7	1	67
14	7.2	0.8	1.1	81
16	8.2	0.9	1.25	103
18	9.2	1	1.4	128
20	10.2	1.1	1.55	155
22.5	11.2	1.25	1.75	195
25	12.2	1.5	2.05	298
28	14.2	1.5	2.15	290
31.5	16.3	1.75	2.45	398
35.5	18.3	2	2.8	528
40	20.4	2.25	3.15	660
45	22.4	2.5	3.5	790
50	25.4	3	4.1	1220
56	28.5	3	4.3	1150
63	31	3.5	4.9	1530
71	36	4	5.6	2100
80	41	5	6.7	3500
90	46	5	7	3200
100	51	6	8.2	4900
112	57	6	8.5	4500
125	64	8	10.6	8800
140	72	8	11.2	8700
160	82	10	13.5	14000
180	92	10	14	12800
200	102	12	16.2	18675
225	112	12	17	17450
250	127	14	19.6	25410

Type B				
D	d	s	h	Spring Force in Newtons F
8	4.2	0.3	0.55	12
10	5.2	0.4	0.7	21
12.5	6.2	0.5	0.85	30
14	7.2	0.5	0.9	28
16	8.2	0.6	1.05	42
18	9.2	0.7	1.2	58
20	10.2	0.8	1.35	76
22.5	11.2	0.8	1.45	72
25	12.2	0.9	1.6	88
28	14.2	1	1.8	113
31.5	16.3	1.25	2.15	195
35.5	18.3	1.25	2.25	173
40	20.4	1.5	2.6	267
45	22.4	1.75	3.05	372
50	25.4	2	3.4	485
56	28.5	2	3.6	452
63	31	2.5	4.25	733
71	36	2.5	4.5	686
80	41	3	5.3	1070
90	46	3.5	6	1440
100	51	3.5	6.3	1330
112	57	4	7.2	1810
125	64	5	8.5	3050
140	72	5	9	2850
160	82	6	10.5	4180
180	92	6	11.1	3820
200	102	8	13.6	7795
225	112	8	14.5	7214
250	127	10	17	12140

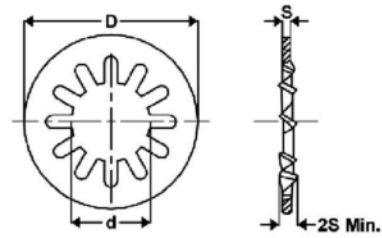


Nominal Size	d	D	s	h		Spring Force in Newtons F	kg/1000
				min.	max.		
2	2.2	5	0.4	0.5	0.6	628	0.05
2.5	2.7	6	0.5	0.61	0.72	946	0.09
3	3.2	7	0.6	0.72	0.85	1320	0.14
3.5	3.7	8	0.8	0.92	1.06	2410	0.25
4	4.3	9	1	1.12	1.3	3770	0.38
5	5.3	11	1.2	1.35	1.55	5480	0.69
6	6.4	14	1.5	1.7	2	8590	1.43
7	7.4	17	1.75	2	2.3	11300	2.53
8	8.4	18	2	2.24	2.6	14900	3.13
10	10.5	23	2.5	2.8	3.2	22100	6.45
12	13	29	3	3.43	3.95	34100	12.4
16	17	39	4	4.58	5.25	59700	30.4
18	19	42	4.5	5.08	5.8	74400	38.9
20	21	45	5	5.6	6.4	93200	48.8
24	25	56	6	6.77	7.75	131000	92.9
27	28	60	6.5	7.3	8.35	154000	113
30	31	70	7	8	9.2	172000	170

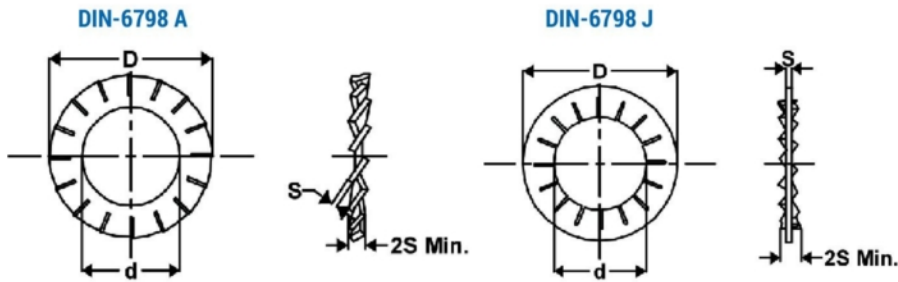
DIN-6797 A



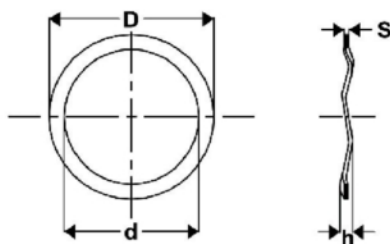
DIN-6797 J



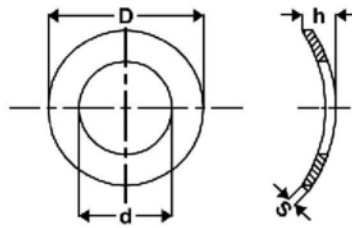
Nominal Size	d		D		h		No. Tooth	kg/1000
	min.	max.	min.	max.	min.	max.		
3	3.2	3.38	5.7	6	0.38	0.42	6	0.04
4	4.3	4.48	7.64	8	0.475	0.525	8	0.1
5	5.3	5.48	9.64	10	0.575	0.625	8	0.19
6	6.4	6.62	10.57	11	0.67	0.73	8	0.215
8	8.4	8.62	14.57	15	0.77	0.83	8	0.51
10	10.5	10.77	17.57	18	0.87	0.93	9	0.77
12	13	13.27	19.98	20.5	0.97	1.03	10	1.06
14	15	15.27	23.48	24	0.97	1.03	10	1.473
16	17	17.27	25.48	26	1.165	1.235	12	1.95
18	19	19.33	29.48	30	1.365	1.435	12	3.21
20	21	21.33	32.38	33	1.365	1.435	12	3.832
22	23	23.33	35.38	36	1.465	1.535	14	4.98
24	25	25.33	37.38	38	1.465	1.535	14	5.244
27	28	28.33	43.38	44	1.555	1.645	14	8.087
30	31	31.39	47.38	48	1.555	1.645	14	9.413



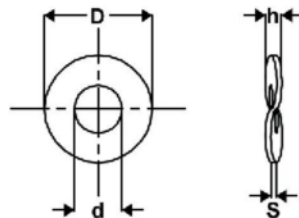
Nominal Size	d		D		s		No. Tooth	kg/1000
	min.	max.	min.	max.	min.	max.		
4	4.3	4.48	7.64	8	0.475	0.525	8	0.13
5	5.1	5.28	8.64	9	0.475	0.525	8	0.15
5	5.3	5.48	9.64	10	0.575	0.625	8	0.246
6	6.4	6.62	10.57	11	0.67	0.73	9	0.31
7	7.4	7.62	12.07	12.5	0.77	0.83	10	0.43
8	8.2	8.42	13.57	14	0.77	0.83	10	0.55
8	8.4	8.62	14.57	15	0.77	0.83	10	0.67
9	9.55	9.77	15.57	16	0.77	0.83	10	0.762
10	10.5	10.77	17.57	18	0.87	0.93	12	1.07
11	11.5	11.77	18.98	19.5	0.87	0.93	12	1.22
12	13	13.27	19.98	20.5	0.97	1.03	12	1.38
13	13.2	13.27	21.48	22	0.97	1.03	12	1.72
14	15	15.27	23.48	24	0.97	1.03	14	1.95
16	17	17.27	25.48	26	1.165	1.235	13	2.62
18	19	19.33	29.48	30	1.365	1.435	13	4.302
20	21	21.33	32.38	33	1.365	1.435	15	5.08
22	23	23.33	35.38	36	1.465	1.535	15	6.45
24	25	25.33	37.38	38	1.465	1.535	15	6.951
26	26.4	26.73	39.38	40	1.555	1.645	15	8.365
27	28	28.33	43.38	44	1.555	1.645	16	10.319
30	31	31.39	47.38	48	1.555	1.645	17	12.395



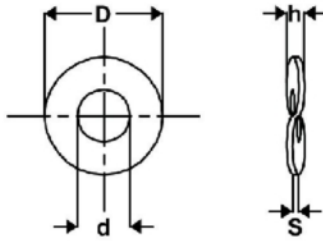
Bearing Types			d	D	s	h
	6200		22.5	29.7	0.3	1.7
6002	6201		26.4	31.2	0.4	2.1
6003	6202	6300	28	33.9	0.4	3.2
		6301	30.1	35.1	0.4	3.3
	6203	6302	33	39	0.4	3.5
6004			35.1	40.7	0.4	3.5
	6204	6303	39.8	45.8	0.4	3.5
	6205	6304	41.3	50.5	0.5	3.5
6006			44.6	53.4	0.5	3.5
6007	6206	6305	50.3	60.8	0.5	4
	6207	6306	60.5	70.8	0.5	4
6010	6208	6307	70.6	79	0.6	4
	6209		73.7	84.1	0.6	4
6011	6210	6308	78.5	88.8	0.6	4
6013	6211	6309	88.2	98.2	0.6	4.1
	6212	6310	99	109	0.6	4.1
	6213		100	120	0.8	5
	6214		105	123.5	0.8	5
	6218	6315	134	158.5	0.8	5
	6219	6318	140	169	0.8	5



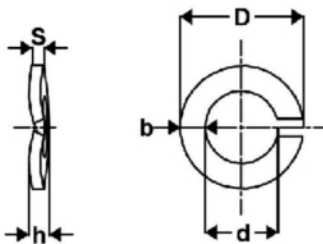
Nominal Size	d		D		s		h		kg/1000
	min.	max.	min.	max.	min.	max.	min.	max.	
2	2.2	2.45	4.125	4.875	0.27	0.33	0.5	1	0.027
2.3	2.5	2.75	4.625	5.375	0.27	0.33	0.5	1	0.032
2.5	2.8	3.05	5.125	5.875	0.27	0.33	0.55	1.1	0.039
2.6	2.8	3.05	5.125	5.875	0.27	0.33	0.55	1.1	0.039
3	3.2	3.5	5.625	6.375	0.35	0.45	0.65	1.3	0.057
3.5	3.7	4	6.55	7.45	0.35	0.45	0.7	1.4	0.078
4	4.3	4.6	7.55	8.45	0.45	0.55	0.8	1.6	0.126
5	5.3	5.6	9.55	10.45	0.45	0.55	0.9	1.8	0.204
6	6.4	6.76	10.45	11.55	0.45	0.55	1.1	2.2	0.23
7	7.4	7.76	11.45	12.55	0.45	0.55	1.2	2.4	0.25
8	8.4	8.76	14.45	15.55	0.44	0.56	1.7	3.4	0.437
10	10.5	10.93	17.45	18.55	0.74	0.86	2	4	0.96



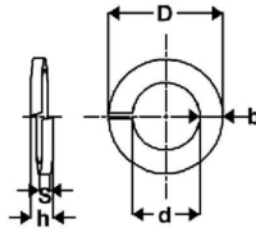
Nominal Size	d		D		s		h		kg/1000
	min.	max.	min.	max.	min.	max.	min.	max.	
4	4.3	4.6	8.55	9.45	0.45	0.55	1	2	0.182
5	5.3	5.6	10.45	11.55	0.45	0.55	1.1	2.2	0.27
6	6.4	6.76	11.45	12.55	0.45	0.55	1.3	2.6	0.27
7	7.4	7.76	13.45	14.55	0.74	0.86	1.5	3	0.651
8	8.4	8.76	14.45	15.55	0.74	0.86	1.5	3	0.67
8	8.4	8.76	16.45	16.55	0.74	0.86	1.7	3.4	1.052
10	10.5	10.93	17.45	18.55	0.93	1.07	2.1	4.2	1.214
10	10.5	10.93	20.35	21.65	0.93	1.07	2.1	4.2	1.888
12	13	13.43	23.35	24.65	1.13	1.27	2.5	5	2.83
14	15	15.43	27.35	28.65	1.52	1.68	3	6	5.08
16	17	17.43	29.35	30.65	1.52	1.68	3.2	6.4	5.477
18	19	19.52	33.2	34.8	1.52	1.68	3.3	6.6	7
20	21	21.52	35.2	36.8	1.52	1.68	3.7	7.4	7.646
22	23	23.52	39.2	40.8	1.7	1.9	3.9	7.8	10.597
24	25	25.52	43.2	44.8	1.7	1.9	4.1	8.2	13.286
27	28	28.52	49.2	50.8	1.9	2.1	4.7	9.4	20.407
30	31	31.62	55.05	56.95	2.1	2.3	5	10	28.47



Nominal size	d		D	s		h		kg/1000
	min.	max.	max.	min.	max.	min.	max.	
M2.5	2.25	2.35	7	0.45	0.55	0.9	1.05	0.13
M3	2.7	2.8	8	0.45	0.55	0.9	1.05	0.17
M3.5	3.2	3.23	8	0.45	0.55	1	1.15	0.16
M4	3.6	3.72	9	0.74	0.86	1.5	1.65	0.34
M5	4.55	4.67	11	0.74	0.86	1.6	1.75	0.49
M6	5.4	5.52	12	0.74	0.86	1.85	2	0.57
M8	7.3	7.45	15	0.93	1.07	2.2	2.4	1.06
M10	9.2	9.35	21	0.93	1.07	2.4	2.6	2.20

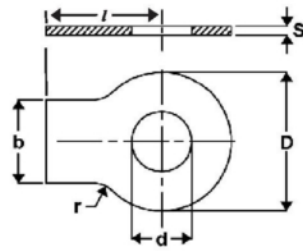


Nominal Size	d		D	b		s		h		kg/1000
	min.	max.	max.	min.	max.	min.	max.	min.	max.	
M2.5	2.25	2.35	4.55	0.9	1.1	0.5	0.7	0.9	1.1	0.06
M3	2.7	2.8	5.6	1.2	1.4	0.6	0.8	1.1	1.3	0.09
M3.5	3.2	3.3	6.1	1.2	1.4	0.6	0.8	1.1	1.3	0.10
M4	3.6	3.75	6.95	1.4	1.6	0.7	0.9	1.2	1.4	0.15
M5	4.55	4.75	8.5	1.7	1.9	0.9	1.1	1.5	1.7	0.30
M6	5.5	5.7	11	2.35	2.65	1.2	1.4	2	2.2	0.64
M8	7.4	7.65	13.95	2.85	3.15	1.5	1.7	2.45	2.75	1.23
M10	9.3	9.55	16.95	3.3	3.7	1.7	1.9	2.85	3.15	2.00
M12	11	11.3	19.7	3.8	4.2	1.95	2.25	3.35	3.65	3.10

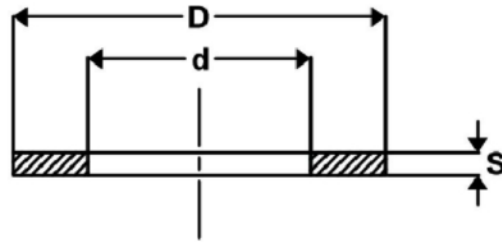


$$h = 2 S \text{ (Approx.)}$$

Nominal size	d		D	b		s		kg/1000
	Basic	Tol. +	Max.	Basic	Tol. ±	Basic	Tol. ±	
M2	2.1	0.3	4.4	0.9	0.1	0.5	0.1	0.033
M2.2	2.3	0.3	4.9	1	0.1	0.6	0.1	0.050
M2.5	2.6	0.3	5.1	1	0.1	0.6	0.1	0.053
M3	3.1	0.3	6.2	1.3	0.1	0.8	0.1	0.112
M3.5	3.6	0.3	6.7	1.3	0.1	0.8	0.1	0.12
M4	4.1	0.3	7.6	1.5	0.1	0.9	0.1	0.18
M5	5.1	0.3	9.2	1.8	0.1	1.2	0.1	0.36
M6	6.1	0.4	11.8	2.5	0.15	1.6	0.1	0.83
M7	7.1	0.4	12.8	2.5	0.15	1.6	0.1	0.93
M8	8.2	0.4	14.8	3	0.15	2	0.1	1.60
M10	10.2	0.6	18.1	3.5	0.2	2.2	0.15	2.53
M12	12.2	0.8	21.1	4	0.2	2.5	0.15	3.82
M14	14.2	0.8	24.1	4.5	0.2	2	0.15	6.01
M16	16.2	0.8	27.4	5	0.2	3.5	0.2	8.91
M18	18.2	0.8	29.4	5	0.2	3.5	0.2	9.73
M20	20.2	1	33.6	6	0.2	4	0.2	15.2
M22	22.5	1	35.9	6	0.2	4	0.2	16.5
M24	24.5	1	40	7	0.25	5	0.2	26.2
M27	27.5	1	43	7	0.25	5	0.2	28.7
M30	30.5	1.2	48.2	8	0.25	6	0.2	44.3
M33	33.5	1.2	55.2	10	0.25	6	0.2	63.0
M36	36.5	1.2	58.2	10	0.25	6	0.2	67.3
M39	39.5	1.2	61.2	10	0.25	6	0.2	71.7
M42	42.5	1.2	68.2	12	0.25	7	0.25	111
M45	45.5	1.2	71.2	12	0.25	7	0.25	117
M48	49	1.5	75	12	0.25	7	0.25	123
M52	53	1.5	83	14	0.25	8	0.25	182
M56	57	1.5	87	14	0.25	8	0.25	193
M60	61	1.5	91	14	0.25	8	0.25	203
M64	65	1.5	95	14	0.25	8	0.25	218
M72	73	1.5	103	14	0.25	8	0.25	240
M76	77	1.5	109	14	0.25	8	0.25	253
M80	81	1.5	111	14	0.25	8	0.25	262
M90	91	1.5	121	14	0.25	8	0.25	290
M100	101	1.5	131	14	0.25	8	0.25	318



Nominal size	d	D	b	l	r	s
M3	3.2	12	4	13	2.5	0.4
M3.5	3.7	12	4	13	2.5	0.4
M4	4.3	14	5	14	2.5	0.4
M5	5.3	17	6	16	2.5	0.5
M6	6.4	19	7	18	4	0.5
M7	7.4	19	7	18	4	0.5
M8	8.4	22	8	20	4	0.8
M10	10.5	26	10	22	6	0.8
M12	13	30	12	28	10	1
M14	15	33	12	28	10	1
M16	17	36	15	32	10	1
M18	19	40	18	36	10	1
M20	21	42	18	36	10	1
M22	23	50	20	42	10	1
M24	25	50	20	42	10	1
M27	28	58	23	48	16	1.6
M30	31	63	26	52	16	1.6
M33	34	68	28	56	16	1.6
M36	37	75	30	60	16	1.6
M39	40	82	32	64	16	1.6
M42	43	88	35	70	16	1.6
M45	46	95	38	75	16	1.6
M48	50	100	40	80	16	1.6
M52	54	105	44	85	16	1.6



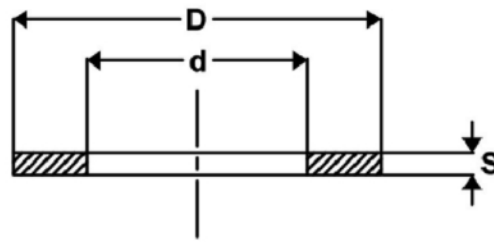
Nominal Size	d		D		s	
	Min.	Max.	Min.	Max.	Min.	Max.
M1.6	1.7	1.84	3.7	4	0.25	0.35
M1.7	1.8	1.94	4.2	4.5	0.25	0.35
M2	2.2	2.34	4.7	5	0.25	0.35
M2.3	2.5	2.64	5.7	6	0.45	0.55
M2.5	2.7	2.84	5.7	6	0.45	0.55
M2.6	2.8	2.94	6.64	7	0.45	0.55
M3	3.2	3.38	6.64	7	0.45	0.55
M3.5	3.7	3.88	7.64	8	0.45	0.55
M4	4.3	4.48	8.64	9	0.7	0.9
M5	5.3	5.48	9.64	10	0.9	1.1
M6	6.4	6.62	11.57	12	1.4	1.8
M7	7.4	7.62	13.57	14	1.4	1.8
M8	8.4	8.62	15.57	16	1.4	1.8
M10	10.5	10.77	19.48	20	1.8	2.2
M12	13	13.27	23.48	24	2.3	2.7
M14	15	15.27	27.48	28	2.3	2.7
M16	17	17.27	29.48	30	2.7	3.3
M18	19	19.33	33.38	34	2.7	3.3
M20	21	21.33	36.38	37	2.7	3.3
M22	23	23.33	38.38	39	2.7	3.3
M24	25	25.33	43.38	44	3.7	4.3
M26	27	27.33	49.38	50	3.7	4.3
M27	28	28.33	49.38	50	3.7	4.3
M28	29	29.33	49.38	50	3.7	4.3
M30	31	31.39	55.26	56	3.7	4.3
M32	33	33.62	58.8	60	4.4	5.6
M33	34	34.62	58.8	60	4.4	5.6
M35	36	36.62	64.8	66	4.4	5.6
M36	37	37.62	64.8	66	4.4	5.6
M38	39	39.62	70.8	72	5.4	6.6
M39	40	40.62	70.8	72	5.4	6.6
M40	41	41.62	70.8	72	5.4	6.6
M42	43	43.62	76.8	78	6	8
M45	46	46.62	83.6	85	6	8
M48	50	50.62	90.6	92	7	9
M50	52	52.74	90.6	92	7	9



DIN-433

Plain Washers

22

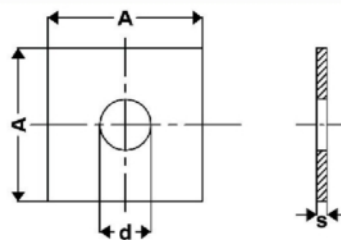


Nominal Size	d		D		s		kg/1000
	min.	max.	min.	max.	min.	max.	
M4	4.3	4.48	7.64	8	0.45	0.55	0.140
M5	5.3	5.48	8.64	9	0.9	1.1	0.326
M6	6.4	6.62	10.57	11	1.4	1.8	0.790
M8	8.4	8.62	14.57	15	1.4	1.8	1.52
M10	10.5	10.77	17.57	18	1.4	1.8	2.11
M12	13	13.27	19.48	20	1.8	2.2	2.85
M14	15	15.27	23.48	24	2.3	2.7	5.41
M16	17	17.27	27.48	28	2.3	2.7	7.63
M18	19	19.33	29.48	30	2.3	2.7	8.31
M20	21	21.33	33.38	34	2.7	3.3	13.2
M24	25	25.33	36.38	39	3.7	4.3	22.1
M30	31	31.39	49.38	50	3.7	4.3	38.0
M36	37	37.62	56.68	58	4.4	5.6	61.5



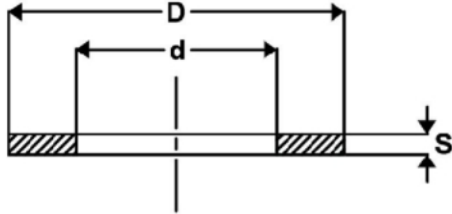
DIN-436

Plain Washers (Square)



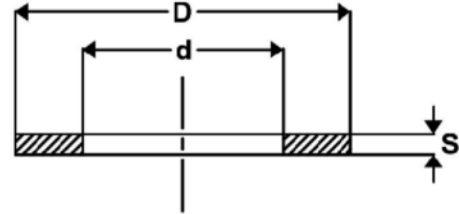
Nominal Size	d		A		s		kg/1000
	min.	max.	min.	max.	min.	max.	
10	11	11.43	28.7	30	2.4	3.6	20.0
12	13.5	13.93	38.4	40	3.4	4.6	45.7
16	17.5	18.2	48.4	50	4	6	88.7
20	22	22.84	58.1	60	4	6	126
22	24	24.84	68.1	70	5	7	209
24	26	26.84	78.1	80	5	7	275
27	30	30.84	87.8	90	5	7	348
30	33	34	92.8	95	5	7	385
33	36	37	97.8	100	5	7	423
36	39	40	107.8	110	6.8	9.2	685
39	42	43	122.5	125	6.8	9.2	895
42	45	46	132.5	135	6.8	9.2	1050
45	48	49	137.5	140	6.8	9.2	1120
48	52	53.2	147.5	150	8.8	11.2	1600
52	56	57.2	157.5	160	8.8	11.2	1820

DIN-1440

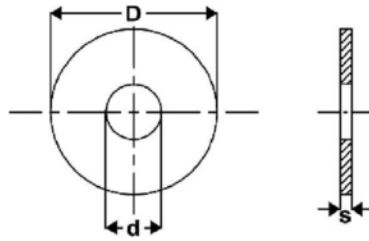


Nominal Size	d	D	s	kg/1000
M4	4	8	0.8	0.23
M5	5	10	0.8	0.36
M6	6	12	1.6	1.05
M7	7	14	1.6	1.42
M8	8	16	2	2.22
M10	10	20	2.5	4.56
M12	12	25	3	8.99
M13	13	25	3	8.36
M14	14	28	3	10.8
M16	16	28	3	9.68
M18	18	30	4	13.8
M20	20	32	4	15.0
M22	22	34	4	16.2
M23	23	36	4	18.5
M24	24	38	4	21.4
M25	25	40	4	23.6
M26	26	40	5	28.5
M27	27	40	5	26.5
M28	28	42	5	29.7
M30	30	45	5	34.2
M32	32	50	5	44.8
M33	33	50	5	43.3
M35	35	52	6	52.8
M36	36	52	6	49.5
M40	40	58	6	63.4
M45	45	62	7	76.8
M50	50	68	8	101
M55	55	75	9	141
M60	60	80	9	151
M65	65	90	9	211

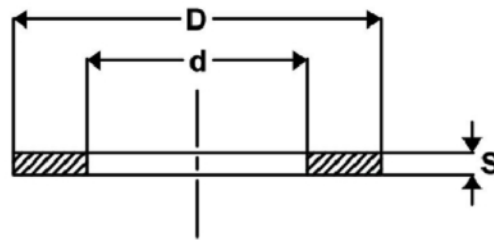
DIN-1441



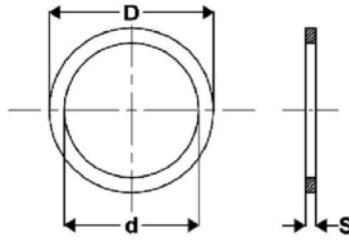
Nominal Size	d	D	s	kg/1000
M5	5.5	10	0.8	0.34
M6	7	12	1.6	0.94
M7	8	14	1.6	1.3
M8	9	16	2	2.16
M10	11	20	2.5	4.3
M12	13	25	3	8.43
M13	14	25	3	7.94
M14	15	28	3	10.3
M16	17	28	3	9.16
M18	19	30	4	13.3
M20	21	32	4	14.4
M22	23	34	4	15.5
M23	24	36	4	17.8
M24	25	38	4	20
M25	26	40	4	22.8
M26	27	40	5	26.9
M27	28	40	5	25
M28	29	42	5	28.5
M30	31	45	5	32.8
M33	34	50	5	43.5
M36	37	52	6	49.4
M40	41	58	6	59.2
M44	45	62	7	70.6
M50	51	68	8	94.7
M55	56	75	9	138
M60	62	80	9	142
M65	68	90	9	193



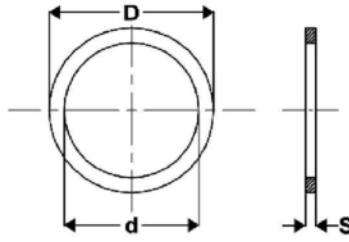
Nominal size	d		D						s						kg/1000		
			Type A		Type B		Type C		Type A		Type B		Type C				
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	Type A	Type B	Type C
M2.5	2.25	2.35	5.82	6	7.78	8	4.82	5	0.55	0.65	0.75	0.85	0.55	0.65	0.11	0.29	0.07
M3	2.75	2.85	6.78	7	8.78	9	5.82	6	0.55	0.65	0.75	0.85	0.55	0.65	0.15	0.36	0.11
M3.5	3.2	3.32	7.78	8	10.73	11	6.78	7	0.75	0.85	0.75	0.85	0.75	0.85	0.27	0.55	0.19
M4	3.6	3.72	8.78	9	11.73	12	7.78	8	0.75	0.85	0.94	1.06	0.75	0.85	0.34	0.81	0.25
M5	4.55	4.67	9.78	10	14.73	15	8.78	9	0.94	1.06	1.52	1.68	0.94	1.06	0.49	2.01	0.37
M6	5.5	5.62	11.73	12	17.73	18	10.73	11	1.52	1.68	1.52	1.68	1.52	1.68	1.12	2.90	0.89
M8	7.4	7.55	15.73	16	23.67	24	14.73	15	1.91	2.09	1.91	2.09	1.91	2.09	2.48	6.43	2.10
M10	9.3	9.52	19.67	20	29.67	30	17.73	18	2.4	2.6	2.4	2.6	2.4	2.6	4.83	12.54	3.66
M12	11	11.27	23.67	24	36.61	37	19.67	20	2.89	3.11	2.89	2.89	2.89	3.11	8.41	23.08	5.16



Nominal Size	d		D		s		kg/1000
	min.	max.	min.	max.	min.	max.	
M4	4.3	4.48	11.57	12	0.9	1.1	0.774
M5	5.3	5.48	14.57	15	1	1.4	1.46
M6	6.4	6.62	17.57	18	1.4	1.8	2.79
M7	7.4	7.62	21.48	22	1.8	2.2	5.29
M8	8.4	8.62	23.48	24	1.8	2.2	6.23
M10	10.5	10.77	29.48	30	2.3	2.7	12.2
M12	13	13.27	36.38	37	2.7	3.3	22.2
M14	15	15.27	43.38	44	2.7	3.3	31.6
M16	17	17.27	49.38	50	2.7	3.3	40.9
M18	20	20.52	54.1	56	3.4	4.6	67.4
M20	22	22.52	58.1	60	3.4	4.6	76.8
M24	26	26.84	70.1	72	4	6	139
M30	33	34	89.8	92	5	7	273
M36	39	40	107.8	110	6.8	9.2	522



ø		s kg/1000											
d	D	0.1 -0.03	0.15 -0.04	0.2 -0.04	0.25 -0.04	0.3 -0.05	0.5 -0.05	1.0 -0.05	1.2 -0.07	1.5 -0.07	2.0 -0.07	2.5 -0.07	3.0 -0.07
3	6	0.016	0.024	0.032	0.040	0.050	0.083	0.165					
4	8	0.030	0.045	0.060	0.075	0.089	0.148	0.296					
5	10	0.046	0.069	0.092	0.115	0.139	0.231	0.462					
6	12	0.067	0.101	0.134	0.168	0.200	0.333	0.666	0.800				
7	13	0.074	0.111	0.148	0.185	0.221	0.369	0.738	0.885				
8	14	0.082	0.123	0.164	0.205	0.245	0.408	0.815	0.980				
9	15	0.089	0.134	0.178	0.223	0.270	0.445	0.891	1.070				
10	16	0.096	0.144	0.192	0.240	0.290	0.481	0.963	1.150				
11	17	0.103	0.155	0.206	0.258	0.310	0.515	1.030	1.233				
12	18	0.111	0.167	0.222	0.278	0.332	0.555	1.110	1.330				
13	19	0.119	0.179	0.237	0.296	0.357	0.595	1.190	1.428	1.780			
14	20	0.126	0.189	0.252	0.315	0.378	0.630	1.260	1.512	1.890			
15	21	0.133	0.199	0.266	0.333	0.399	0.665	1.330	1.596	2.000			
15	22	0.137	0.205	0.274	0.342	0.410	0.683	1.360	1.636	2.050			
16	22	0.140	0.210	0.280	0.350	0.420	0.700	1.400	1.680	2.100			
17	24	0.177	0.266	0.354	0.443	0.530	0.885	1.770	2.124	2.650			
18	25	0.185	0.278	0.370	0.463	0.551	0.925	1.850	2.220	2.780			
19	26	0.194	0.291	0.388	0.485	0.584	0.970	1.940	2.328	2.910			
20	28	0.236	0.354	0.472	0.590	0.710	1.180	2.360	2.832	3.540	4.720		
22	30	0.257	0.386	0.514	0.643	0.770	1.280	2.570	3.084	3.855	5.140		
22	32	0.333	0.500	0.666	0.833	1.000	1.660	3.330	3.996	4.995	6.660		
25	35	0.370	0.555	0.740	0.925	1.110	1.850	3.700	4.440	5.550	7.400		
25	36	0.414	0.621	0.828	1.035	1.240	2.070	4.140	4.968	6.210	8.280		
26	37	0.427	0.641	0.854	1.068	1.280	2.130	4.270	5.124	6.400	8.540		
28	40	0.503	0.755	1.006	1.258	1.510	2.510	5.030	6.036	7.540	10.06		
30	42	0.535	0.803	1.070	1.338	1.600	2.680	5.350	6.420	8.030	10.70	13.40	
32	45	0.619	0.929	1.238	1.548	1.860	3.100	6.190	7.430	9.290	12.40	15.50	
35	45	0.495	0.743	0.990	1.238	1.490	2.480	4.950	5.940	7.430	9.900	12.30	
36	45	0.451	0.677	0.902	1.128	1.350	2.250	4.510	5.410	6.760	9.000	11.30	
37	47	0.516	0.774	1.032	1.290	1.550	2.580	5.160	6.190	7.740	10.30	12.90	
40	50	0.554	0.831	1.108	1.385	1.690	2.770	5.540	6.650	8.310	11.10	13.90	
42	52	0.580	0.870	1.060	1.350	1.730	2.900	5.780	6.930	8.680	11.50	14.50	
45	55	0.620	0.930	1.220	1.530	1.850	3.100	6.200	7.440	9.300	12.40		18.60
45	56	0.680	1.020	1.360	1.700	2.040	3.400	6.800	8.160	10.20	13.60		20.40
48	60	0.790	1.180	1.580	1.970	2.370	3.950	7.900	9.480	11.80	15.80		23.70
50	62	0.830	1.240	1.660	2.070	2.490	4.150	8.300	9.960	12.40	16.60		24.90
50	63	0.910	1.360	1.820	2.270	2.730	4.550	9.100	10.90	13.60	18.20		27.30
52	65	0.940	1.410	1.880	2.350	2.820	4.700	9.400	11.30	14.10	18.80		28.20
55	68	0.980	1.470	1.960	2.450	2.930	4.900	9.800	11.70	14.70	19.60		29.30
56	70	1.090	1.640	2.180	2.730	3.270	5.450	10.90	13.10	16.40	21.80		32.70



∅		s kg/1000											
d	D	0.1 -0.03	0.15 -0.04	0.2 -0.04	0.25 -0.04	0.3 -0.05	0.5 -0.05	1.0 -0.05	1.2 -0.07	1.5 -0.07	2.0 -0.07	3.0 -0.07	3.5 -0.08
56	72	1.270	1.900	2.540	3.170	3.800	6.350	12.70	15.20	19.00	25.40	38.00	
60	75	1.250	1.870	2.500	3.120	3.750	6.250	12.50	15.00	18.70	25.00	37.50	
63	80	1.500	2.250	3.000	3.750	4.500	7.500	15.00	18.00	22.50	30.00	45.00	
65	85	1.850	2.770	3.700	4.620	5.550	9.250	18.50	22.20	27.70	37.00		63.00
70	90	1.970	2.950	3.940	4.920	5.900	9.850	19.70	23.60	29.50	39.40		69.00
75	95	2.090	3.130	4.180	5.220	6.280	10.50	20.90	25.10	31.40	41.80		73.20
80	100	2.220	3.330	4.440	5.550	6.650	11.10	22.20	26.60	33.30	44.40		77.80
85	105	2.340	3.510	4.680	5.850	7.050	11.70	23.40	28.10	35.10	46.80		82.00
90	110	2.470	3.700	4.940	6.170	7.400	12.40	24.70	29.60	37.10	49.40		86.50
95	115	2.590	3.880	5.180	6.470	7.770	13.00	25.90	31.10	38.90	51.80		90.70
100	120	2.720	4.080	5.440	6.800	8.150	13.60	27.20	32.60	40.80	54.40		95.20
100	125	3.470	5.200	6.940	8.670	10.40	17.30	34.70					122.00
105	130	3.620	5.430	7.220	9.050	10.80	18.10	36.20					127.00
110	140	4.620	6.930	9.220	11.50	13.90	23.10	46.20					162.00
120	150	5.000	7.500	10.00	12.50	15.00	25.00	50.00					175.00
130	160	5.360	8.040	10.70	13.40	16.10	26.80	53.60					188.00
140	170	5.730	8.600	11.50	14.30	17.20	28.50	57.30					201.00
150	180	6.100	9.150	12.20	15.20	18.30	30.50	61.00					214.00
160	190	6.470	9.700	12.90	16.20	19.40	32.30	64.70					227.00
170	200	6.850	10.30	13.70	17.10	20.60	34.30	68.50					240.00





Vardhaman
Engimech Private Limited

Corporate Office

"EKTA" Chhaniyara Estate,
Atika Ind.Area,
Dhebar Road (South),
Rajkot - 360002,
Gujarat, India.

Factory

Survey No. 652, Bhumi Gate,
Shapar-Veraval, Rajkot, Gujarat.

✉ info@vempl.com