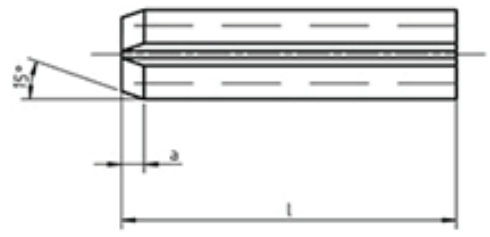
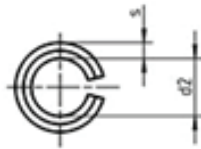


Up to 4.5mm Nominal Diameter



Nominal Diameter 5mm and above

Material: Carbon Spring Steel
Hardness: 45 – 50 HRC

Finish: Phosphating

Light Pattern

Nominal Diameter mm	s	a	d1	Tolerance on d1	d1 ≈	For Bolt Size	Corresponding Washer	Preferred on Length
2	0.2	0.35	2.3	+0.1	1.9	-	-	4-30
2.5	0.25	0.45	2.8		2.3	-	-	4-30
3	0.3	0.5	3.3	+0.2	2.7	-	-	4-40
3.5	0.35	0.6	3.3		3.1	-	-	4-40
4	0.5	0.7	4.4		3.4	-	-	4-50
4.5	0.5	0.8	4.8		3.8	M3	3.2	4-50
5	0.5	1.6	5.4		4.4	-	-	5-50
6	0.75	1.6	6.4	+0.3	4.9	M4	4.3	10-100
7	0.75	1.6	7.5		6.0	M5	5.3	10-100
8	0.75	2	8.5		7.0	M6	6.4	10-120
10	1	2	10.5	+0.4	8.5	-	-	10-150
11	1	2	11.5		9.5	M8	8.4	10-150
12	1	2	12.5		10.5	-	-	10-180
13	1.25	2	13.5		11.0	M10	10.5	10-180
14	1.5	2	14.5		11.5	-	13	10-200
16	1.5	2	16.5		13.5	M12	15	10-200
18	1.75	2	18.5		16.5	-	-	10-200
20	2	2	20.5		16.5	M13	17	14-200
21	2	3	21.5		19.5	M18	19	14-200
23	2	3	23.5		21.5	M20	21	14-200
25	2.5	3	25.5		23.5	M22	23	14-200
30	2.5	3	28.5		25.5	M24	25	14-200
35	3.5	3	30.5		28.5	M27	28	20-200
40	4	4	35.5		32.5	M30	31	20-200
45	4	4	40.5		37.5	M36	37	20-200
50	5	4	50.5	40.5	M30	40	20-200	