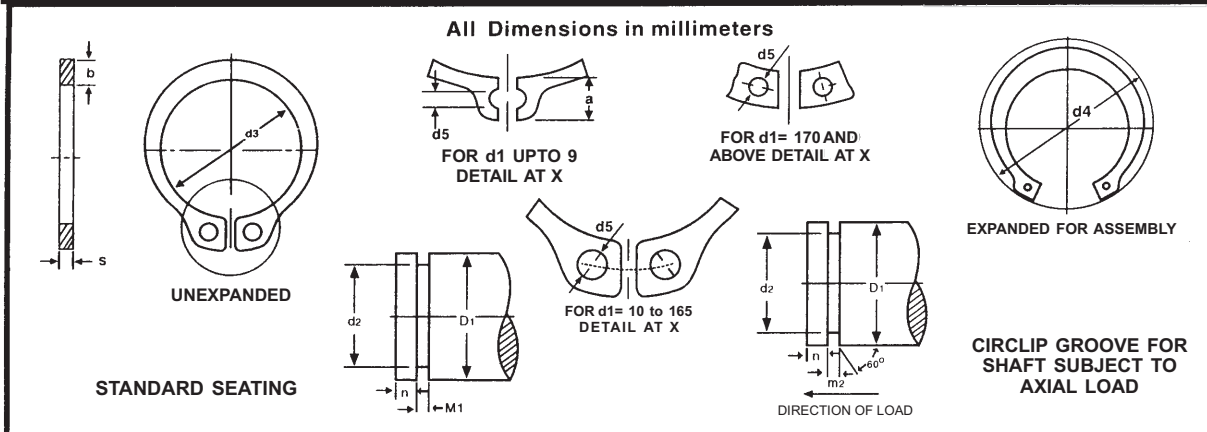




# SANJAY ENGINEERING WORKS

## EXTERNAL CIRCLIPS DIN : 471 IS : 3075

( LIGHT - SERIES )



Shaft Dia d1	S	Tolerance												Axial Force kgf					
			a Max	b Approx	d3	Tol ON d3	d3 Min	d4 Ex- panded	d2	Tol on d2	m1 H13	m2 Min	n Min						
3	0.4	+0.03	1.9	0.8	2.7	+0.06 -0.12	0.8	7.2	2.8	h11	0.5	0.6	0.3	23					
4			2.2	0.9	3.7	+0.075 -0.15	1	8.8	3.8					30					
5			2.5	1.1	4.7			10.7	4.8					38					
6	0.6	+0.04	2.7	1.3	5.6	+0.09 -0.18	1.15	12.2	5.7	0.45	0.8	0.9	70						
7	3.1		1.4	6.5	13.8		6.7	80											
8	0.7		3.2	1.5	7.4		15.2	7.6	120										
9	0.8	+0.04	1.7	8.4	9.3	+0.15 -0.30	1.2	16.4	8.6	0.6	0.9	1	138						
10								3.3	1.8				10.2	17.6	9.6	1.1	1.2	0.75	153
11													11	18.6	10.5				0.9
12	11	19.6	11.5	325															
13	1	+0.04	3.4	2	11.9	+0.18 -0.36	1.7	20.8	12.4	1.1	1.2	0.9	400						
14								3.5	2.1				12.9	22	13.4	1.2	490		
15								3.6	2.2				13.8	23.2	14.3			520	
16	3.7	14.7	24.4	15.2	1.5	1.4	1.5	520											
17	3.8	2.3	15.7	25.6				16.2	690										
18	1.2	+0.04	3.9	2.4				16.5	+0.21 -0.42	2	26.8	17	1.3	1.4	1.5	725			
19					2.5	17.5	27.8				18	770							
20					4	2.6	18.5				29	19				805			
21	1.2	+0.04	4.1	2.7	19.5	+0.21 -0.42	2	30.2	20	1.3	1.4	1.5	845						
22								4.2	2.8				20.5	31.4	21	1010			
24								4.4	3				22.2	33.8	22.9	1060			
25	4.4	23.2	34.8	23.9	1100														
26	1.5	+0.05	4.5	3.1	24.2	+0.25 -0.50	2.5	36	24.9	h12	1.6	1.7	2.1	1500					
28								4.7	3.2					25.9	38.4	26.6	1620		
29								4.8	3.4				26.9	39.6	27.6	2100			
30	1.5	+0.05	5	3.5	27.9	+0.25 -0.50	2.5	41	28.6	1.6	1.7	2.6	2100						
32								5.2	3.6				29.6	43.4	30.3	2220			
34								5.4	3.8				31.5	45.8	32.3	2670			
35	1.75	+0.05	5.6	3.9	32.2	+0.25 -0.50	2.5	47.2	33	1.85	2	3	2670						
36								4	33.2				48.2	34	3760				
38								5.8	4.2				35.2	50.6	36	4910			

Shaft Dia d1	s h11	Tolerance	EXTERNAL CIRCLIPS											
			a Max	b Approx	d3	Tol ON d 3	d 5 Min	d 4 Ex- panded	d'2	Tol on d2	m1 H13	m2 Min	n Min	Axial Force kgf
40	1.75	+0.05	6	4.4	36.5	+0.39 -0.78	2.5	53	37.5	h12	1.85	2	3.8	3810
42			6.5	4.5	38.5			56	39.5					4000
45			6.7	4.7	41.5			59.4	42.5					4300
47			6.8	4.8	43.5			61.4	44.5					4450
48			6.9	5	44.5			62.8	45.5					4600
50	2	+0.06	6.9	5.1	45.8	+0.46 -0.92	2.5	64.8	47	h12	2.15	2.3	5700	
52			7	5.2	47.8			67	49				5950	
55			7.2	5.4	50.8			70.4	52				6300	
56			7.3	5.5	51.8			71.6	53				6400	
58				5.6	53.8			73.6	55				6650	
60			7.4	5.8	55.8			75.8	57				6900	
62			7.5	6	57.8			78	59				7100	
63	7.6	6.2	58.8	79.2	60	7250								
65	2.5	+0.06	7.8	6.3	60.8	+0.54 -1.08	3	81.6	62	h12	2.65	2.8	7500	
68			8	6.5	63.5			85	65				7840	
70			8.1	6.6	65.5			87.2	67				8050	
72			8.2	6.8	67.5			89.4	69				8300	
75			8.4	7	70.5			92.8	72				8600	
78			8.6	7.3	73.5			96.2	75				9000	
80				7.4	74.5			98.2	76.5				9000	
82			8.7	7.6	76.5			101	78.5				10700	
85			8.7	7.8	79.5			104	81.5				11000	
88			3	+0.07	8.8			8	82.5				+0.54 -1.08	3.5
90	8.2	84.5			109	86.5	11900							
95	9.4	8.6			89.5	115	91.5	12100						
100	9.6	9			94.5	121	96.5	12800						
105	9.9	9.3			98	126	101	13500						
110	4	+0.08	10.1	9.6	103	+0.63 -1.26	4	132	106	h13	4.15	4.3	16200	
115			10.6	9.8	108			138	111				17000	
120			11	10.2	113			143	116				17800	
125			11.4	10.4	118			149	121				18500	
130			11.6	10.7	123			155	126				19300	
135			11.8	11	128			160	131				20100	
140			12	11.2	133			165	136				20900	
145			12.2	11.5	138			171	141				21700	
150			13	11.8	142			177	145				22500	
155				12	146			182	150				28900	
160			13.3	12.2	151			188	155				30000	
165			13.5	12.5	155.5			193	160				31000	
170				12.9	160.5			197	165				32000	
175				Max	165.5			202	170				32900	
180			14.2	13.5	170.5			208	175				33800	
185	Max	175.5		213	180	34800								
190	180.5	185		219	185	33800								
195	185.5	190		224	190	33500								
200	190.5	195		229	195	32700								
210	5	+0.09	14.8 Max	198	+0.72 -1.44	4	239	204	h13	5.15	5.3	9	31900	
220				208			239	204					48800	
230				218			249	214					51200	
240				228			259	224					53500	
250				238			269	234					52900	
260				245			279	244					50300	
270				255			293	252					54400	
280				265			303	262					52500	
290				275			313	272					50800	
300				285			323	282					49100	
				333	292	47300								

Material: Spring steel HRC = 47 to 52 or HV = 480 to 558 kp / mm2 up to 38 mm bore diameter  
HRC = 44 to 49 or HV = 440 to 510 kp / mm2 from 40 to 200 mm bore diameter  
HRC = 40 to 45 or HV = 392 to 453 kp / mm2 from 210 to 300 mm bore diameter