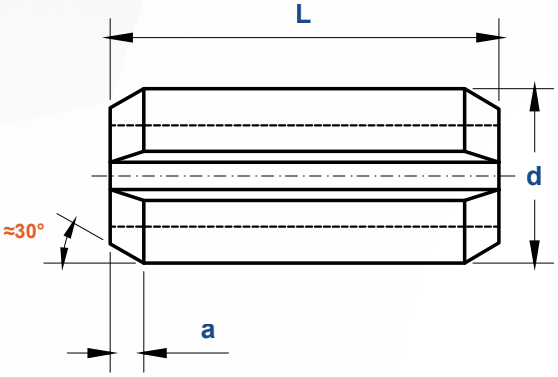
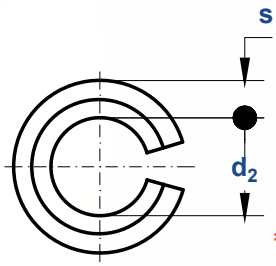
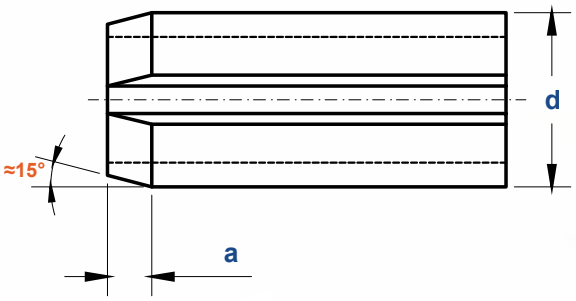
d≤7mm:





d≥8mm:



Nominal Diameter d		Φ2	Φ2.5	Φ3	Φ3.5	Φ4	Φ4.5	Φ5	Φ6	Φ7	Φ8	Φ10	Φ11	Φ12	Φ13
a		0.2	0.25	0.25	0.3	0.5	0.5	0.5	0.7	0.7	1.5	2	2	2	2
d	min	2.3	2.8	3.3	3.8	4.4	4.8	5.4	6.4	7.5	8.5	10.5	11.5	12.5	13.5
	max	2.4	2.9	3.5	4	4.6	5	5.6	6.7	7.8	8.8	10.8	11.8	12.8	13.8
d_2	≈	1.9	2.3	2.7	3.1	3.4	3.8	4.4	4.9	6	7	8.5	9.5	10.5	11
s		0.2	0.25	0.3	0.35	0.5	0.5	0.5	0.75	0.75	0.75	1	1	1	1.25
Minimum shear strength, single (kN)		0.75	1.2	1.75	2.3	4	4.4	5.2	9	10.5	12	20	22	24	33
Minimum Double Shear,kN		1.5	2.4	3.5	4.6	8	8.8	10.4	18	21	24	40	44	48	66

Nominal Diameter d		Φ14	Φ16	Φ18	Φ20	Φ21	Φ23	Φ25	Φ28	Φ30	Φ35	Φ40	Φ45	Φ50
a		2	2	2	2	2	3	3	3	3	3	4	4	4
d	min	14.5	16.5	18.5	20.5	21.5	23.5	25.5	28.5	30.5	35.5	40.5	45.5	50.5
	max	14.8	16.8	18.9	20.9	21.9	23.9	25.9	28.9	30.9	35.9	40.9	45.9	50.9
d_2	≈	11.5	13.5	15	16.5	17.5	19.5	21.5	23.5	25.5	28.5	32.5	37.5	40.5
s		1.5	1.5	1.75	2	2	2	2	2.5	2.5	3.5	4	4	5
Minimum shear strength, single (kN)		42	49	63	79	84	92	101	140	151	245	317	360	500
Minimum Double Shear,kN		84	98	126	158	168	184	202	280	302	490	634	720	1000

①, Material: Spring steel 55Si 7 according to DIN 17222; quenched and tempered to 422 up to 560 HV5 (corresponding to 1400 to 1800MPa tensile strength)