

MECHANICAL

Coiled Spring Pins and Slotted Spring Pins

Shear Strength

SEP Range (Carbon/Alloy Steel) & EP Range (Stainless Steel)

Spring pins are supplied as standard duty. Heavy and light duty spring pins are available P.O.A.

Minimum Double Shear Strength kN

NOMINAL Ø		0.8	1.0	1.2	1.5	2.0	2.5	3.0	3.5	4	5	6	8	10	12	16	20
Carbon/Alloy Steel																	
Chrome Stainless Steel																	
SEP	Standard Duty ISO 8750	0.4	0.60	0.90	1.45	2.5	3.9	5.5	7.5	9.6	15.0	22.0	39	62	89	155	250
	Heavy Duty ISO 8748	-	-	-	1.90	3.5	5.5	7.6	10.0	13.5	20.0	30.0	53	84	120	210	340
	Light Duty ISO 8751	-	-	-	0.80	1.5	2.3	3.6	4.5	5.7	9.0	13.0	23	-	-	-	-
Nickel Stainless Steel																	
EP	Standard Duty ISO 8750	0.3	0.45	0.65	1.05	1.9	2.9	4.2	5.7	7.6	11.5	16.8	30	48	67	-	-
	Heavy Duty ISO 8748	-	-	-	1.45	2.5	3.8	5.7	7.6	10.0	15.5	23.0	41	64	91	-	-
	Light Duty ISO 8751	-	-	-	0.65	1.1	1.8	2.5	3.4	4.4	7.0	10.0	18	-	-	-	-

SAP Range (Carbon Steel)

ISO 8752 (BS 7060, DIN 1481)

Material: BS 1449 CS 70

Harden and temper to HV420-HV520 equivalent to DIN 17222 C67 or AISI 1070.

SRP Range (Stainless)

ISO 8752 (BS 7060, DIN 1481)

Material: AISI 304 (ISO A2)

All dimensions in mm. Chamfer angle 15-30°. Chamfer dia, to be less than nominal hole size.

Length Tolerance (ISO 8752): Up to 10mm: ±0.25mm, 12mm to 50mm: ±0.50mm, over 55mm: ±0.75mm

Nom. Dia. ISO 8752 mm	Expanded Dia. 'd'		Recommended Hole Size		Material Thickness 's'	Minimum Double Shear Strength Kn		Chamfer Length 'a'	
	Min.	Max	Min.	Max		Carbon	Stainless	Min.	Max
1.0	1.2	1.3	1.00	1.10	0.2	0.70	0.40	0.15	0.34
1.5	1.7	1.8	1.50	1.60	0.3	1.58	0.98	0.24	0.45
2.0	2.3	2.4	2.00	2.10	0.4	2.82	1.81	0.35	0.55
2.5	2.8	2.9	2.50	2.60	0.5	4.38	2.84	0.40	0.60
3.0	3.3	3.5	3.00	3.10	0.6	6.32	4.07	0.50	0.70
3.5	3.8	4.0	3.50	3.62	0.7	9.06	5.80	0.60	0.80
4.0	4.4	4.6	4.00	4.12	0.8	11.24	7.25	0.65	0.85
5.0	5.4	5.6	5.00	5.12	1.0	17.54	10.75	0.90	1.10
6.0	6.4	6.7	6.00	6.12	1.2	26.04	16.17	1.20	1.40
8.0	8.5	8.8	8.00	8.15	1.5	42.76	26.46	1.40	1.80
10.0	10.5	10.8	10.00	10.15	2.0	70.16	42.14	2.00	2.40
12.0	12.5	12.8	12.00	12.17	2.5	104.10	62.00	2.00	2.40
14.0	14.5	14.8	14.00	14.17	3.0	144.70	-	2.00	2.40
16.0	16.5	16.8	16.00	16.17	3.0	171.00	-	2.00	2.40
20.0	20.5	20.9	20.00	20.20	4.0	280.00	-	-	-

Slotted spring pins consist of a single coil of spring steel (or stainless steel) with an open slot sufficiently wide to enable the pin to reduce in diameter as it is driven into a hole of appropriate size. The ends of the pin have a bevelled chamfer. They are designed for plain drilled holes but a countersink makes assembly easier. Slotted pins are normally supplied in the heavy duty form to ISO 8752, but a light duty version can be supplied to ISO 13337.

It is possible to increase the shear strength of slotted pins by inserting a small diameter pin inside a large one. This should always be done by inserting the larger pin first, then inserting the smaller one, taking care that the slot is between 90° and 180° away from the slot in the larger pin. Suitable combinations for pins to ISO 8752 are:

Outer Pin (mm)	Inner Pin (mm)	Outer Pin (mm)	Inner Pin (mm)
2.5	1.5	10.0	6.0
3.5	2.0	12.0	7.0
5.0	3.0	14.0	8.0
6.0	3.5	16.0	10.0
8.0	5.0	20.0	12.0

Supplied in plain oiled finish. Steel pins may be given a protective finish such as zinc or phosphate, but care is needed to prevent the open slots entangling in barrel plating processes. Where electrolytically applied finishes are used it is essential to de-embrittle the pins immediately after plating. Since the de-embrittlement process is not completely reliable, non-electrolytic finishes should be used for safety-critical applications. Where pins are to be installed in plastic it is recommended that they be de-oiled before use to avoid embrittlement of the plastic.