

Technical information for helical springs

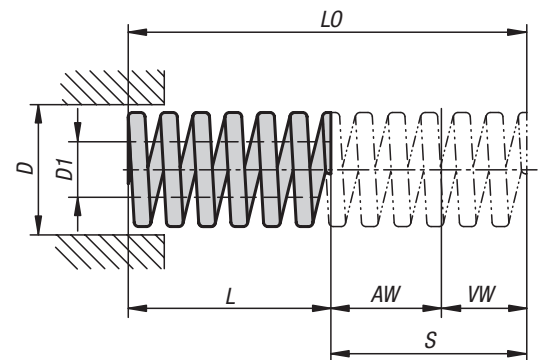
The compression springs are available in four colour coded load grades. Identical spring lengths and diameters enable the interchangeability of different load grades. The lengths, diameters, force and colours comply with ISO 10243.

To extend the service life, the springs have been heat-treated, abrasive blasted and pre-stressed to block height during production.

The service life can be influenced by dividing the spring travel into the working travel and the preload travel.

The smaller the difference between the spring travel and the unloaded length, the higher the expected service life.

Select a preload L as large as possible and a working travel that is as small as necessary to maximise the service life.



- LO = unloaded length
- L = loaded length
- AW = working travel
- VW = preload travel
- S = spring travel

Ratio of loaded and unloaded spring length:

Light load			Medium load			Heavy load			Very heavy load						
Loaded length L (mm) spring travel S in % of LO			LO	Loaded length L (mm) spring travel S in % of LO			LO	Loaded length L (mm) spring travel S in % of LO			LO	Loaded length L (mm) spring travel S in % of LO			LO
Long service life S1 25 %	Medium service life S2 30 %	Maximum load $\leq S$ 40 %	Unloaded length LO mm	Long service life S1 25 %	Medium service life S2 30 %	Maximum load $\leq S$ 37,5 %	Unloaded length LO mm	Long service life S1 20 %	Medium service life S2 25 %	Maximum load $\leq S$ 30 %	Unloaded length LO mm	Long service life S1 17 %	Medium service life S2 20 %	Maximum load $\leq S$ 25 %	Unloaded length LO mm
19	17,5	14,8	25	19	17,5	15,5	25	20	19	17,5	25	20,8	20	19	25
24	22,5	19,5	32	24	22,5	20	32	26	24	22,5	32	26,5	26	24	32
25,8	27	23	38	28,5	27	24	38	30,5	28,5	27	38	31,5	30,5	28,5	38
33	31	26	44	33	31	27	44	35	33	31	44	36,5	35	33	44
38	36	31	51	38	36	32	51	41	38	36	51	42,5	41	38	51
48	45	39	64	48	45	40	64	51	48	45	64	53	51	48	64
57	53	46	76	57	53	47	76	61	57	53	76	63	61	57	76
67	62	54	89	67	62	56	89	71	67	62	89	74	71	67	89
77	71	61	102	77	71	64	102	82	77	71	102	85	82	77	102
86	81	69	115	86	81	72	115	92	86	81	115	95	92	86	115
95	89	76	127	95	89	79	127	102	95	89	127	105	102	95	127
105	98	84	140	105	98	88	140	112	105	98	140	116	112	105	140
114	106	91	152	114	106	95	152	122	114	106	152	126	122	114	152
133	125	107	178	133	125	111	178	143	133	125	178	148	143	133	178
152	142	122	203	152	142	127	203	162	152	142	203	168	162	152	203
-	-	-	-	172	160	143	229	-	-	-	-	-	-	-	-
191	178	152	254	191	178	159	254	203	191	178	254	211	203	191	254
229	213	183	305	229	213	191	305	244	229	213	305	253	244	229	305

