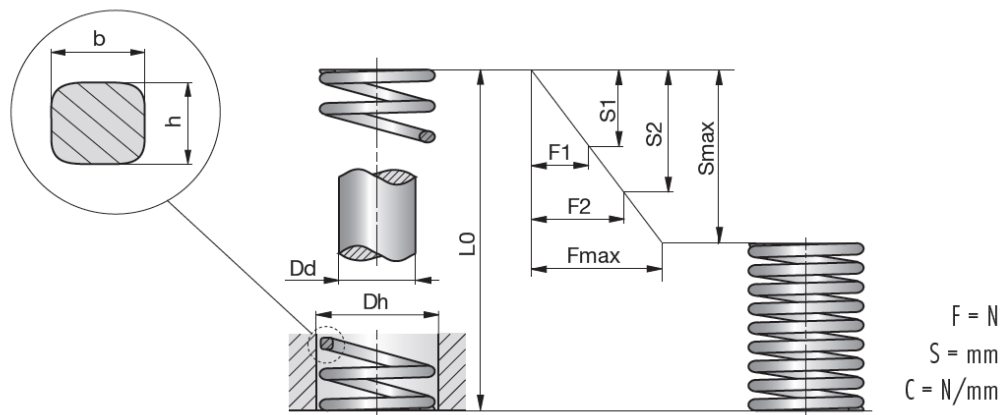


ISO Die Spring

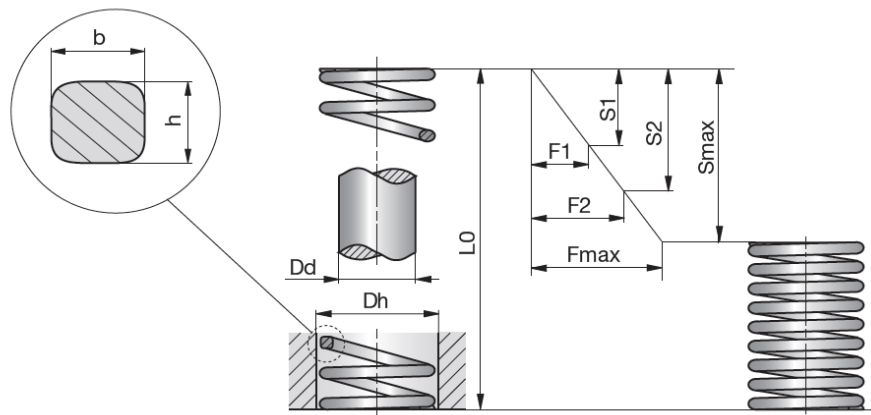
-Light load



Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
10	25	5	10.0	6.3	63	7.5	75	10.0	100	1.7 x 1.1
	32	5	8.5	8.0	68	9.6	82	12.8	109	1.7 x 1.1
	38	5	6.8	9.5	65	11.4	78	15.2	103	1.7 x 1.1
	44	5	6.0	11.0	66	13.2	79	17.6	106	1.7 x 1.1
	51	5	5.0	12.8	64	15.3	77	20.4	102	1.7 x 1.1
	64	5	4.3	16.0	69	19.2	83	25.6	110	1.7 x 1.1
	76	5	3.2	19.0	61	22.8	73	30.4	97	1.7 x 1.1
12.5	305	5	1.1	76.3	84	91.5	101	122.0	134	1.7 x 1.1
	25	6.3	17.9	6.3	113	7.5	134	10.0	179	2.4 x 1.4
	32	6.3	16.4	8.0	131	9.6	157	12.8	210	2.4 x 1.4
	38	6.3	13.6	9.5	129	11.4	155	15.2	207	2.4 x 1.4
	44	6.3	12.1	11.0	133	13.2	160	17.6	213	2.4 x 1.4
	51	6.3	11.4	12.8	146	15.3	174	20.4	233	2.4 x 1.4
	64	6.3	9.3	16.0	149	19.2	179	25.6	238	2.4 x 1.4
	76	6.3	7.1	19.0	135	22.8	162	30.4	216	2.4 x 1.4
12.5	89	6.3	5.4	22.3	120	26.7	144	35.6	182	2.4 x 1.4
	305	6.3	1.4	76.3	107	91.5	128	122.0	171	2.4 x 1.4

ISO Die Spring

-Light load

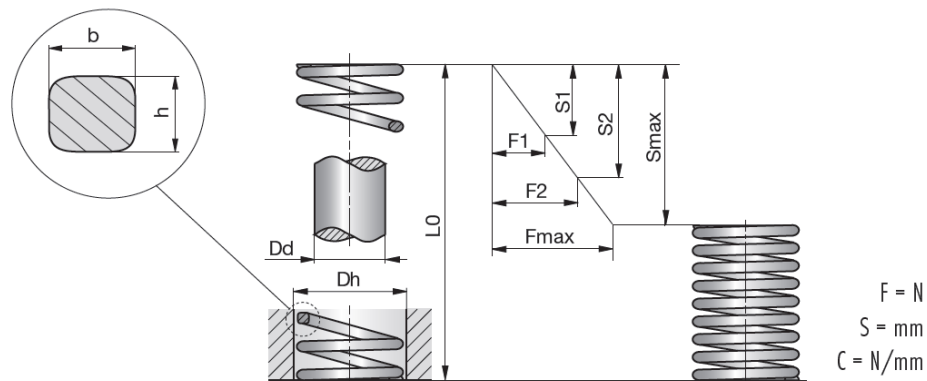


Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
16	25	8	23.4	6.3	147	7.5	176	10.0	234	3.2 x 1.5
	32	8	22.9	8.0	183	9.6	220	12.8	293	3.2 x 1.5
	38	8	19.3	9.5	183	11.4	220	15.2	293	3.2 x 1.5
	44	8	17.1	11.0	188	13.2	226	17.6	301	3.2 x 1.5
	51	8	15.7	12.8	201	15.3	240	20.4	320	3.2 x 1.5
	64	8	10.7	16.0	171	19.2	205	25.6	274	3.2 x 1.5
	76	8	10.0	19.0	190	22.8	228	30.4	304	3.2 x 1.5
	89	8	8.6	22.3	192	26.7	230	35.6	306	3.2 x 1.5
	102	8	7.8	25.5	199	30.6	239	40.8	318	3.2 x 1.5
20	305	8	2.5	76.3	191	91.5	229	122.0	305	3.2 x 1.5
	25	10	55.8	6.3	352	7.5	419	10.0	558	4.0 x 2.1
	32	10	45.0	8.0	360	9.6	432	12.8	576	4.0 x 2.1
	38	10	33.3	9.5	316	11.4	380	15.2	506	4.0 x 2.1
	44	10	30.0	11.0	330	13.2	396	17.6	528	4.0 x 2.1
	51	10	24.5	12.8	314	15.3	375	20.4	500	4.0 x 2.1
	64	10	20.0	16.0	320	19.2	384	25.6	512	4.0 x 2.1
	76	10	16.0	19.0	304	22.8	365	30.4	486	4.0 x 2.1
	89	10	14.0	22.3	312	26.7	374	35.6	498	4.0 x 2.1
	102	10	12.0	25.5	306	30.6	367	40.8	490	4.0 x 2.1
	115	10	10.9	28.8	314	34.5	376	46.0	501	4.0 x 2.1
	127	10	9.5	31.8	302	38.1	362	50.8	483	4.0 x 2.1
	139	10	8.4	35.0	294	42.0	353	56.0	470	4.0 x 2.1
	152	10	7.5	38.0	285	45.6	342	60.8	456	4.0 x 2.1
	305	10	4.0	76.3	305	91.5	366	122.0	488	4.0 x 2.1

$F = N$
 $S = \text{mm}$
 $C = \text{N/mm}$

ISO Die Spring

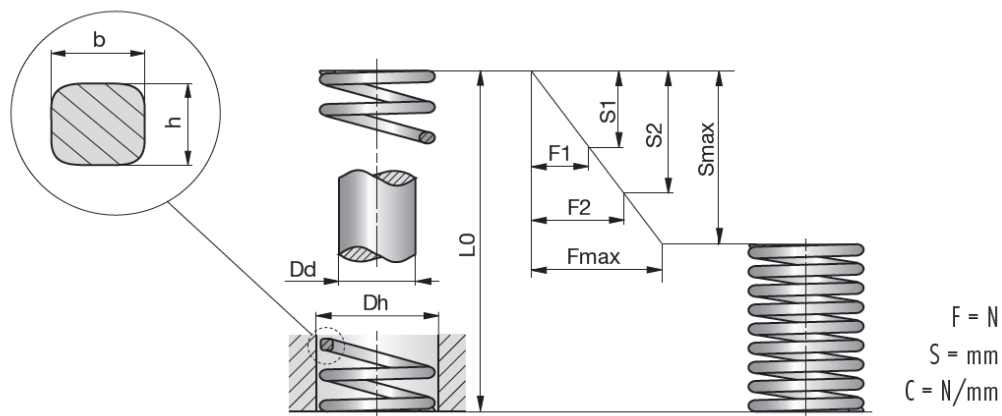
-Light load



Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
25	25	12.5	100.0	6.3	630	7.5	750	10.0	1000	5.4 x 2.7
	32	12.5	80.3	8.0	642	9.6	771	12.8	1028	5.4 x 2.7
	38	12.5	62.0	9.5	589	11.4	707	15.2	942	5.4 x 2.7
	44	12.5	52.9	11.0	582	13.2	698	17.6	931	5.4 x 2.7
	51	12.5	44.0	12.8	563	15.3	673	20.4	898	5.4 x 2.7
	64	12.5	35.2	16.0	563	19.2	676	25.6	901	5.4 x 2.7
	76	12.5	28.0	19.0	532	22.8	638	30.4	851	5.4 x 2.7
	89	12.5	24.0	22.3	535	26.7	641	35.6	854	5.4 x 2.7
	102	12.5	21.1	25.5	538	30.6	646	40.8	861	5.4 x 2.7
	115	12.5	18.7	28.8	539	34.5	645	46.0	860	5.4 x 2.7
	127	12.5	16.7	31.8	531	38.1	636	50.8	848	5.4 x 2.7
	139	12.5	15.3	35.0	536	42.0	643	56.0	857	5.4 x 2.7
	152	12.5	14.0	38.0	532	45.6	638	60.8	851	5.4 x 2.7
	178	12.5	12.5	44.5	556	53.4	668	71.2	890	5.4 x 2.7
	203	12.5	10.4	50.8	528	60.9	633	81.2	844	5.4 x 2.7
	305	12.5	7.0	76.3	534	91.5	641	122.0	854	5.4 x 2.7
32	38	16	94.0	9.5	893	11.4	1072	15.2	1429	6.8 x 3.3
	44	16	79.5	11.0	875	13.2	1049	17.6	1399	6.8 x 3.3
	51	16	67.0	12.8	858	15.3	1025	20.4	1367	6.8 x 3.3
	64	16	53.0	16.0	848	19.2	1018	25.6	1357	6.8 x 3.3
	76	16	44.0	19.0	836	22.8	1003	30.4	1338	6.8 x 3.3
	89	16	37.2	22.3	830	26.7	993	35.6	1324	6.8 x 3.3
	102	16	32.0	25.5	816	30.6	979	40.8	1306	6.8 x 3.3
	115	16	29.0	28.8	835	34.5	1001	46.0	1334	6.8 x 3.3
	127	16	25.0	31.8	795	38.1	953	50.8	1270	6.8 x 3.3
	139	16	23.0	35.0	805	42.0	966	56.0	1288	6.8 x 3.3
	152	16	21.5	38.0	817	45.6	980	60.8	1307	6.8 x 3.3
	178	16	18.2	44.5	810	53.4	972	71.2	1296	6.8 x 3.3
	203	16	15.8	50.8	803	60.9	962	81.2	1283	6.8 x 3.3
	254	16	12.5	63.5	794	76.2	953	101.6	1270	6.8 x 3.3
	305	16	10.3	76.3	786	91.5	942	122.0	1257	6.8 x 3.3

ISO Die Spring

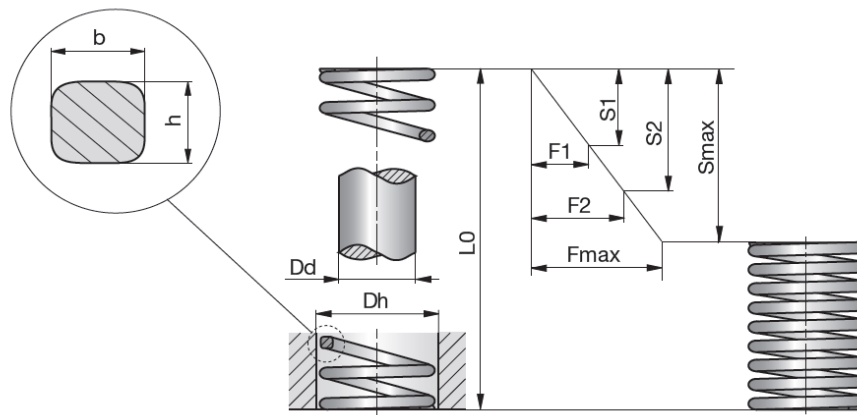
-Medium load



Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
10	25	5	16.0	6.3	101	7.5	120	9.4	150	1.9 x 1.3
	32	5	13.0	8.0	104	9.6	125	12.0	156	1.9 x 1.3
	38	5	11.9	9.5	113	11.4	136	14.2	170	1.9 x 1.3
	44	5	10.3	11.0	113	13.2	136	16.5	170	1.9 x 1.3
	51	5	8.9	12.8	114	15.3	136	19.1	170	1.9 x 1.3
	64	5	7.5	16.0	120	19.2	144	24.0	180	1.9 x 1.3
	76	5	5.3	19.0	101	22.8	121	28.5	151	1.9 x 1.3
	305	5	1.6	76.3	122	91.5	146	114.0	183	1.9 x 1.3
12.5	25	6.3	30.0	6.3	189	7.5	225	9.4	282	2.5 x 1.5
	32	6.3	24.8	8.0	198	9.6	238	12.0	298	2.5 x 1.5
	38	6.3	21.4	9.5	203	11.4	244	14.2	306	2.5 x 1.5
	44	6.3	18.5	11.0	204	13.2	244	16.5	305	2.5 x 1.5
	51	6.3	15.5	12.8	198	15.3	237	19.1	296	2.5 x 1.5
	64	6.3	12.1	16.0	194	19.2	232	24.0	290	2.5 x 1.5
	76	6.3	10.2	19.0	194	22.8	233	28.5	291	2.5 x 1.5
	89	6.3	8.4	22.3	187	26.7	224	33.4	281	2.5 x 1.5
	305	6.3	2.1	76.3	160	91.5	192	114.4	240	2.5 x 1.5

ISO Die Spring

-Medium load

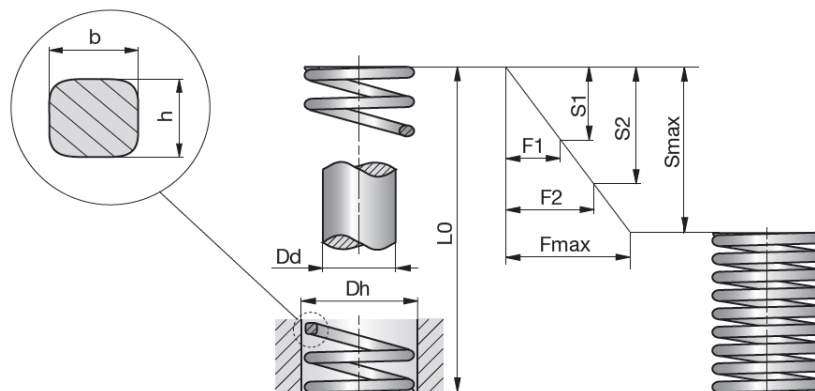


F = N
S = mm
C = N/mm

Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
16	25	8	49.4	6.3	311	7.5	371	9.4	464	3.2 x 2.0
	32	8	37.1	8.0	297	9.6	356	12.0	445	3.2 x 2.0
	38	8	33.9	9.5	322	11.4	386	14.2	485	3.2 x 2.0
	44	8	30.0	11.0	330	13.2	396	16.5	495	3.2 x 2.0
	51	8	26.4	12.8	338	15.3	404	19.1	504	3.2 x 2.0
	64	8	20.5	16.0	328	19.2	394	24.0	492	3.2 x 2.0
	76	8	17.8	19.0	338	22.8	406	28.5	507	3.2 x 2.0
	89	8	15.2	22.3	339	26.7	406	33.3	508	3.2 x 2.0
	102	8	13.5	25.5	344	30.6	413	38.2	517	3.2 x 2.0
	305	8	4.8	76.3	366	91.5	439	114.0	549	3.2 x 2.0
20	25	10	98.0	6.3	617	7.5	735	9.4	921	4.0 x 2.4
	32	10	72.6	8.0	581	9.6	697	12.0	871	4.0 x 2.4
	38	10	56.0	9.5	532	11.4	638	14.2	801	4.0 x 2.4
	44	10	47.5	11.0	523	13.2	627	16.5	784	4.0 x 2.4
	51	10	41.7	12.8	534	15.3	638	19.1	796	4.0 x 2.4
	64	10	32.3	16.0	517	19.2	620	24.0	755	4.0 x 2.4
	76	10	25.1	19.0	477	22.8	572	28.5	715	4.0 x 2.4
	89	10	22.0	22.3	491	26.7	587	33.3	735	4.0 x 2.4
	102	10	19.8	25.5	505	30.6	606	38.3	758	4.0 x 2.4
	115	10	18.1	28.8	521	34.5	624	43.1	780	4.0 x 2.4
	127	10	16.6	31.8	528	38.1	632	47.6	790	4.0 x 2.4
	139	10	15.1	35.0	529	42.0	634	52.1	793	4.0 x 2.4
	152	10	13.2	38.0	502	45.6	602	57.0	752	4.0 x 2.4
	305	10	6.4	76.3	465	91.5	558	114.0	698	4.0 x 2.4

ISO Die Spring

-Medium load

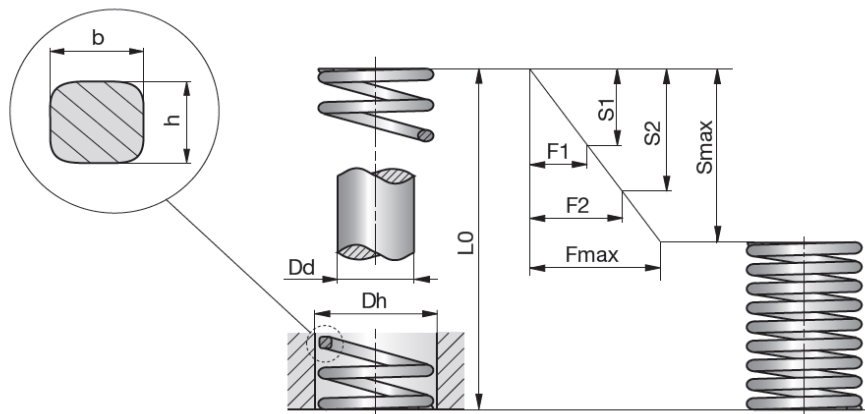


F = N
S = mm
C = N/mm

Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
25	25	12.5	147.0	6.3	926	7.5	1103	9.4	1382	5.4 x 3.3
	32	12.5	118.0	8.0	944	9.6	1133	12.0	1416	5.4 x 3.3
	38	12.5	93.0	9.5	884	11.4	1060	14.2	1330	5.4 x 3.3
	44	12.5	80.8	11.0	889	13.2	1067	16.5	1333	5.4 x 3.3
	51	12.5	68.6	12.8	878	15.3	1050	19.1	1310	5.4 x 3.3
	64	12.5	53.0	16.0	848	19.2	1018	24.0	1272	5.4 x 3.3
	76	12.5	43.2	19.0	821	22.8	985	28.5	1231	5.4 x 3.3
	89	12.5	38.2	22.3	852	26.7	1020	33.4	1276	5.4 x 3.3
	102	12.5	33.0	25.5	842	30.6	1010	38.2	1264	5.4 x 3.3
	115	12.5	28.0	28.8	806	34.5	966	43.1	1207	5.4 x 3.3
	127	12.5	25.9	31.8	824	38.1	987	47.6	1233	5.4 x 3.3
	139	12.5	23.2	35.0	812	42.0	974	52.1	1218	5.4 x 3.3
	152	12.5	20.8	38.0	790	45.6	948	57.0	1186	5.4 x 3.3
	178	12.5	17.8	44.5	792	53.4	951	66.7	1189	5.4 x 3.3
	203	12.5	15.8	50.8	803	60.9	962	76.1	1202	5.4 x 3.3
32	305	12.5	10.2	76.3	778	91.5	933	114.0	1167	5.4 x 3.3
	38	16	185.0	9.5	1758	11.4	2109	14.3	2646	6.8 x 4.0
	44	16	158.0	11.0	1738	13.2	2086	16.5	2607	6.8 x 4.0
	51	16	134.0	12.8	1715	15.3	2050	19.1	2559	6.8 x 4.0
	64	16	99.0	16.0	1584	19.2	1901	24.0	2376	6.8 x 4.0
	76	16	80.5	19.0	1530	22.8	1835	28.5	2294	6.8 x 4.0
	89	16	69.1	22.3	1541	26.7	1845	33.3	2308	6.8 x 4.0
	102	16	58.8	25.5	1499	30.6	1799	38.2	2252	6.8 x 4.0
	115	16	51.5	28.8	1483	34.5	1777	43.1	2220	6.8 x 4.0
	127	16	44.8	31.8	1425	38.1	1707	47.6	2132	6.8 x 4.0
	139	16	42.3	35.0	1481	42.0	1777	52.1	2221	6.8 x 4.0
	152	16	37.8	38.0	1436	45.6	1724	57.0	2155	6.8 x 4.0
	178	16	32.5	44.5	1446	53.4	1736	66.7	2171	6.8 x 4.0
	203	16	28.9	50.8	1468	60.9	1760	76.1	2199	6.8 x 4.0
	254	16	21.4	63.5	1359	76.2	1631	95.2	2039	6.8 x 4.0
	305	16	18.3	76.3	1396	91.5	1674	114.0	2094	6.8 x 4.0

ISO Die Spring

-Medium load

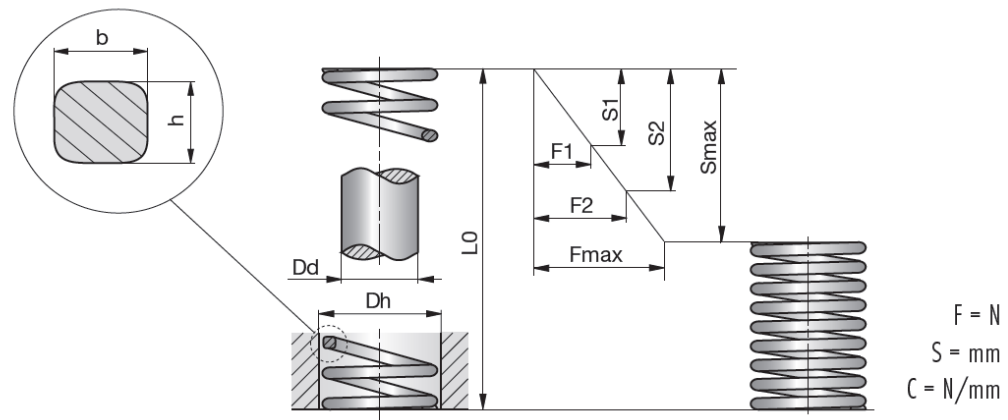


Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
40	51	20	181.6	12.8	2324	15.3	2778	19.1	3469	8.2 x 4.7
	64	20	140.0	16.0	2240	19.2	2688	24.0	3360	8.2 x 4.7
	76	20	108.0	19.0	2052	22.8	2462	28.5	3078	8.2 x 4.7
	89	20	90.7	22.3	2023	26.7	2422	33.3	3029	8.2 x 4.7
	102	20	81.0	25.5	2066	30.6	2479	38.3	3102	8.2 x 4.7
	115	20	71.8	28.8	2068	34.5	2477	43.1	3095	8.2 x 4.7
	127	20	62.7	31.8	1994	38.1	2389	47.6	2985	8.2 x 4.7
	139	20	57.5	35.0	2013	42.0	2415	52.1	3019	8.2 x 4.7
	152	20	51.6	38.0	1961	45.6	2353	57.0	2941	8.2 x 4.7
	178	20	44.1	44.5	1962	53.4	2355	66.7	2946	8.2 x 4.7
	203	20	36.7	50.8	1864	60.9	2235	76.1	2793	8.2 x 4.7
	254	20	30.1	63.5	1911	76.2	2294	85.8	2869	8.2 x 4.7
	305	20	24.6	76.3	1877	91.5	2251	95.2	2814	8.2 x 4.7
50	64	25	209.0	16.0	3344	19.2	4013	114.0	5016	11.1 x 5.8
	76	25	168.0	19.0	3192	22.8	3830	28.5	4788	11.1 x 5.8
	89	25	140.0	22.3	3122	26.7	3738	33.3	4676	11.1 x 5.8
	102	25	119.0	25.5	3035	30.6	3641	38.2	4558	11.1 x 5.8
	115	25	106.0	28.8	3053	34.5	3657	43.1	4569	11.1 x 5.8
	127	25	97.0	31.8	3085	38.1	3696	47.6	4617	11.1 x 5.8
	139	25	87.0	35.0	3045	42.0	3654	52.1	4568	11.1 x 5.8
	152	25	80.0	38.0	3040	45.6	3648	57.0	4560	11.1 x 5.8
	178	25	69.5	44.5	3093	53.4	3711	66.7	4643	11.1 x 5.8
	203	25	59.8	50.8	3038	60.9	3642	76.1	4551	11.1 x 5.8
	229	25	50.9	57.3	2917	68.7	3497	85.8	4372	11.1 x 5.8
	254	25	43.9	63.5	2788	76.2	3345	95.2	4184	11.1 x 5.8
	305	25	38.6	76.3	2945	91.5	3532	114.0	4416	11.1 x 5.8

F = N
S = mm
C = N/mm

ISO Die Spring

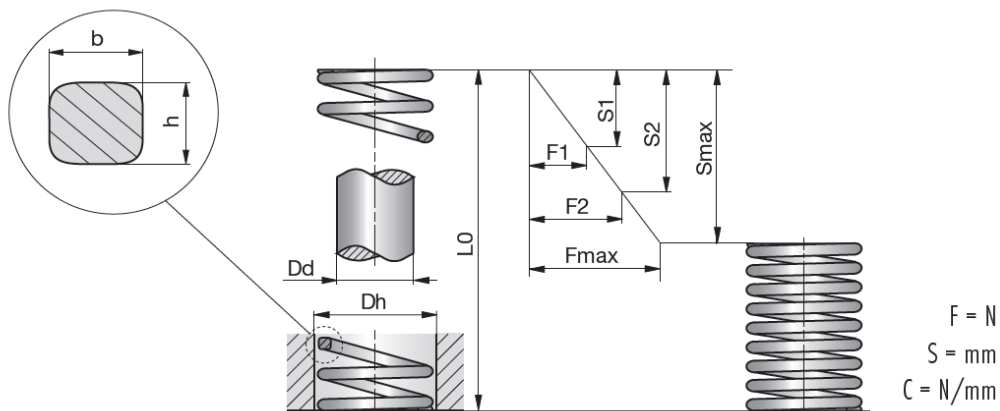
-Medium load



Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
63	76	38	312.0	19.0	5928	22.8	7114	28.5	8892	11.5 x 9.1
	89	38	260.0	22.3	5798	26.7	6942	33.3	8684	11.5 x 9.1
	102	38	221.0	25.5	5636	30.6	6763	38.2	8464	11.5 x 9.1
	115	38	187.0	28.8	5386	34.5	6452	43.1	8060	11.5 x 9.1
	127	38	168.0	31.8	5342	38.1	6401	47.6	7997	11.5 x 9.1
	152	38	136.0	38.0	5168	45.6	6202	57.0	7752	11.5 x 9.1
	178	38	114.0	44.5	5073	53.4	6088	66.7	7615	11.5 x 9.1
	203	38	100.0	50.8	5080	60.9	6090	76.1	7610	11.5 x 9.1
	229	38	89.2	57.3	5111	68.7	6128	85.8	7662	11.5 x 9.1
	254	38	78.4	63.5	4978	76.2	5974	95.2	7472	11.5 x 9.1
	305	38	64.7	76.3	4937	91.5	5920	114.0	7402	11.5 x 9.1

ISO Die Spring

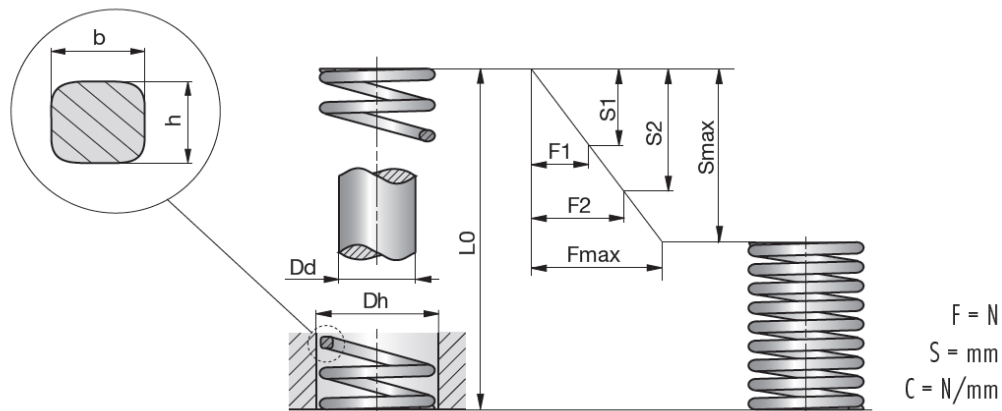
-High load



Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
10	25	5	22.1	5.0	111	6.3	139	7.5	166	1.9 x 1.5
	32	5	17.5	6.4	112	8.0	140	9.6	168	1.9 x 1.5
	38	5	17.1	7.6	130	9.5	162	11.4	195	1.9 x 1.5
	44	5	15.0	8.8	132	11.0	165	13.2	198	1.9 x 1.5
	51	5	13.8	10.2	131	12.8	164	15.3	196	1.9 x 1.5
	64	5	10.7	12.8	137	16.0	171	19.2	205	1.9 x 1.5
	76	5	7.5	15.2	114	19.0	143	22.8	171	1.9 x 1.5
	305	5	2.1	61.0	128	76.3	160	91.5	192	1.9 x 1.5
12.5	25	6.3	42.1	5.0	211	6.3	265	7.5	316	2.4 x 1.9
	32	6.3	33.2	6.4	212	8.0	266	9.6	319	2.4 x 1.9
	38	6.3	29.3	7.6	223	9.5	278	11.4	334	2.4 x 1.9
	44	6.3	24.6	8.8	216	11.0	271	13.2	325	2.4 x 1.9
	51	6.3	19.3	10.2	200	12.8	251	15.3	300	2.4 x 1.9
	64	6.3	15.0	12.8	192	16.0	240	19.2	288	2.4 x 1.9
	76	6.3	13.2	15.2	201	19.0	251	22.8	301	2.4 x 1.9
	89	6.3	11.4	17.8	203	22.3	254	26.7	304	2.4 x 1.9
	305	6.3	2.8	61.0	171	76.3	214	91.5	256	2.4 x 1.9

ISO Die Spring

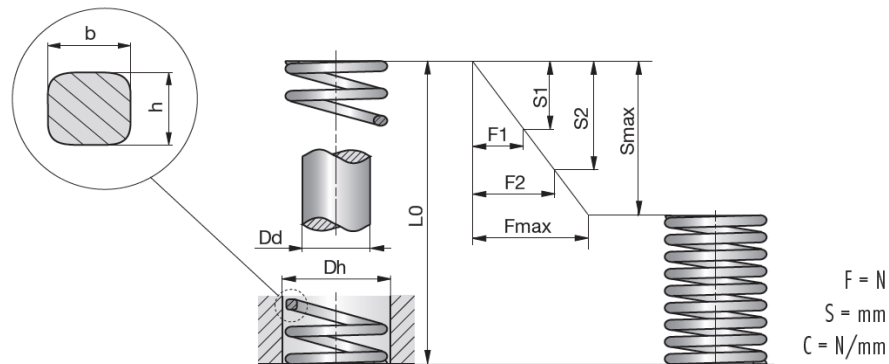
-High load



Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
16	25	8	75.7	5.0	379	6.3	477	7.5	568	3.1 x 2.5
	32	8	52.8	6.4	338	8.0	422	9.6	507	3.1 x 2.5
	38	8	48.5	7.6	369	9.5	461	11.4	553	3.1 x 2.5
	44	8	42.8	8.8	377	11.0	471	13.2	565	3.1 x 2.5
	51	8	37.1	10.2	378	12.8	475	15.3	568	3.1 x 2.5
	64	8	30.3	12.8	388	16.0	485	19.2	582	3.1 x 2.5
	76	8	25.7	15.2	391	19.0	488	22.8	586	3.1 x 2.5
	89	8	21.7	17.8	386	22.3	484	26.7	579	3.1 x 2.5
	102	8	19.3	20.4	394	25.5	492	30.6	591	3.1 x 2.5
	305	8	7.1	61.0	433	76.3	542	91.5	650	3.1 x 2.5
20	25	10	216.0	5.0	1080	6.3	1361	7.5	1620	4.0 x 3.3
	32	10	168.0	6.4	1075	8.0	1344	9.6	1613	4.0 x 3.3
	38	10	129.0	7.6	980	9.5	1226	11.4	1471	4.0 x 3.3
	44	10	112.0	8.8	986	11.0	1232	13.2	1478	4.0 x 3.3
	51	10	94.0	10.2	959	12.8	1203	15.3	1438	4.0 x 3.3
	64	10	72.1	12.8	923	16.0	1154	19.2	1384	4.0 x 3.3
	76	10	59.7	15.2	907	19.0	1134	22.8	1361	4.0 x 3.3
	89	10	50.5	17.8	899	22.3	1126	26.7	1348	4.0 x 3.3
	102	10	44.2	20.4	902	25.5	1127	30.6	1353	4.0 x 3.3
	115	10	38.4	23.0	883	28.8	1106	34.5	1325	4.0 x 3.3
	127	10	34.1	25.4	866	31.8	1084	38.1	1299	4.0 x 3.3
	139	10	31.0	28.0	868	35.0	1085	42.0	1302	4.0 x 3.3
	152	10	28.2	30.4	857	38.0	1072	45.6	1286	4.0 x 3.3
	305	10	15.0	61.0	915	76.3	1145	91.5	1373	4.0 x 3.3

ISO Die Spring

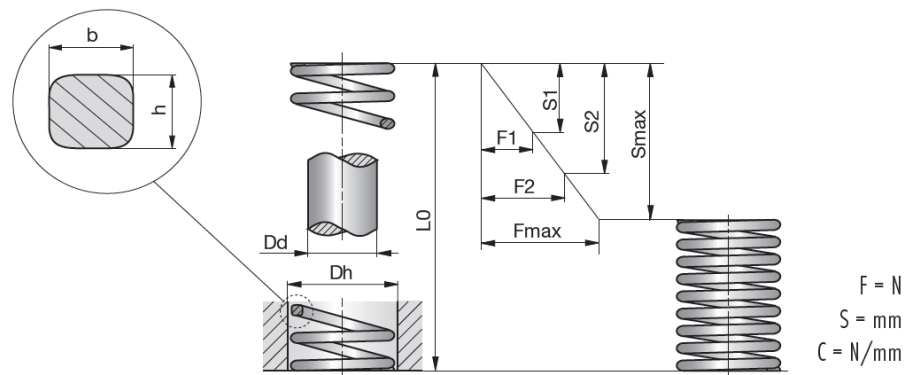
-High load



Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
25	25	12.5	375.0	5.0	1875	6.3	2363	7.5	2813	5.5 x 4.2
	32	12.5	297.0	6.4	1901	8.0	2376	9.6	2851	5.5 x 4.2
	38	12.5	219.0	7.6	1664	9.5	2081	11.4	2497	5.5 x 4.2
	44	12.5	187.0	8.8	1646	11.0	2057	13.2	2468	5.5 x 4.2
	51	12.5	156.0	10.2	1591	12.8	1997	15.3	2387	5.5 x 4.2
	64	12.5	123.0	12.8	1574	16.0	1968	19.2	2362	5.5 x 4.2
	76	12.5	99.0	15.2	1505	19.0	1881	22.8	2257	5.5 x 4.2
	89	12.5	84.0	17.8	1495	22.3	1873	26.7	2243	5.5 x 4.2
	102	12.5	73.0	20.4	1489	25.5	1862	30.6	2234	5.5 x 4.2
	115	12.5	65.0	23.0	1495	28.8	1872	34.5	2243	5.5 x 4.2
	127	12.5	57.7	25.4	1466	31.8	1835	38.1	2198	5.5 x 4.2
	139	12.5	52.7	28.0	1476	35.0	1845	42.0	2213	5.5 x 4.2
	152	12.5	47.8	30.4	1453	38.0	1816	45.3	2180	5.5 x 4.2
	178	12.5	41.0	35.6	1460	44.5	1825	53.4	2189	5.5 x 4.2
	203	12.5	35.8	40.6	1453	50.8	1819	60.9	2180	5.5 x 4.2
	305	12.5	22.9	61.0	1397	76.3	1747	91.5	2095	5.5 x 4.2
32	38	16	388.0	7.6	2949	9.5	3686	11.4	4423	7.1 x 5.4
	44	16	324.0	8.8	2851	11.0	3564	13.2	4277	7.1 x 5.4
	51	16	272.0	10.2	2774	12.8	3482	15.3	4162	7.1 x 5.4
	64	16	212.0	12.8	2714	16.0	3392	19.2	4070	7.1 x 5.4
	76	16	172.0	15.2	2614	19.0	3268	22.8	3922	7.1 x 5.4
	89	16	141.0	17.8	2410	22.3	3144	26.7	3765	7.1 x 5.4
	102	16	122.0	20.4	2489	25.5	3111	30.6	3733	7.1 x 5.4
	115	16	107.0	23.0	2461	28.8	3082	34.5	3692	7.1 x 5.4
	127	16	93.0	25.4	2362	31.8	2957	38.1	3543	7.1 x 5.4
	139	16	86.0	28.0	2408	35.0	3010	42.0	3612	7.1 x 5.4
	152	16	78.0	30.4	2371	38.0	2964	45.6	3557	7.1 x 5.4
	178	16	67.2	35.6	2392	44.5	2990	53.4	3588	7.1 x 5.4
	203	16	59.1	40.6	2399	50.8	3002	60.9	3599	7.1 x 5.4
	254	16	46.4	50.8	2357	63.5	2946	76.2	3536	7.1 x 5.4
	305	16	38.0	61.0	2318	76.3	2899	91.5	3477	7.1 x 5.4

ISO Die Spring

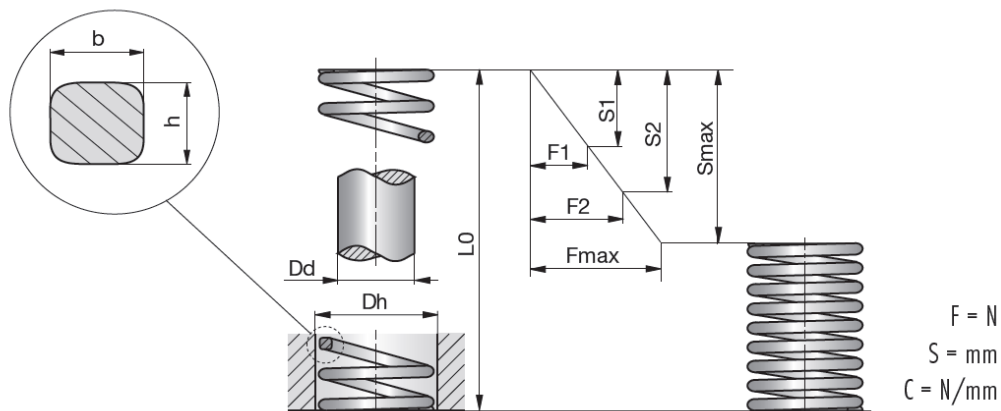
-High load



Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
40	51	20	350.0	10.2	3570	12.8	4480	15.3	5355	8.4 x 6.2
	64	20	269.0	12.8	3443	16.0	4304	19.2	5165	8.4 x 6.2
	76	20	219.0	15.2	3329	19.0	4161	22.8	4993	8.4 x 6.2
	89	20	190.0	17.8	3382	22.3	4237	26.7	5073	8.4 x 6.2
	102	20	163.0	20.4	3325	25.5	4157	30.6	4988	8.4 x 6.2
	115	20	142.0	23.0	3266	28.8	4090	34.5	4899	8.4 x 6.2
	127	20	128.0	25.4	3251	31.8	4070	38.1	4877	8.4 x 6.2
	139	20	115.0	28.0	3320	35.0	4025	42.0	4830	8.4 x 6.2
	152	20	105.0	30.4	3192	38.0	3990	45.6	4788	8.4 x 6.2
	178	20	89.0	25.6	3168	44.5	3961	53.4	4753	8.4 x 6.2
	203	20	77.0	40.6	3126	50.8	3912	60.9	4689	8.4 x 6.2
	254	20	61.0	50.8	3099	63.5	3874	76.2	4648	8.4 x 6.2
50	305	20	51.0	61.0	3111	76.3	3891	91.5	4667	8.4 x 6.2
	64	25	413.0	12.8	5286	16.0	6608	19.2	7930	11.1 x 7.6
	76	25	339.0	15.2	5153	19.0	6441	22.8	7729	11.1 x 7.6
	89	25	288.0	17.8	5126	22.3	6422	26.7	7690	11.1 x 7.6
	102	25	245.0	20.4	4998	25.5	6248	30.6	7497	11.1 x 7.6
	115	25	215.0	23.0	4945	28.8	6192	34.5	7418	11.1 x 7.6
	127	25	192.0	25.4	4877	31.8	6106	38.1	7315	11.1 x 7.6
	139	25	168.0	28.0	4704	35.0	5880	42.0	7056	11.1 x 7.6
	152	25	154.0	30.4	4682	38.0	5852	45.6	7022	11.1 x 7.6
	178	25	134.0	35.6	4770	44.5	5963	53.4	7156	11.1 x 7.6
	203	25	117.0	40.6	4750	50.8	5944	60.9	7125	11.1 x 7.6
	254	25	89.0	50.8	4521	63.5	5652	76.2	6782	11.1 x 7.6
	305	25	73.0	61.0	4453	76.3	5570	91.5	6680	11.1 x 7.6

ISO Die Spring

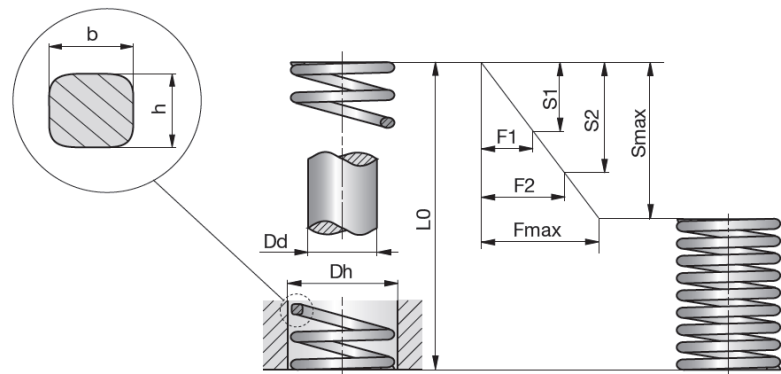
-Heavy load



Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
10	25	5	36.8	4.3	158	5.0	184	6.2	232	1.9 x 1.6
	32	5	27.9	5.4	151	6.4	179	8.0	223	1.9 x 1.6
	38	5	23.7	6.5	154	7.6	180	9.5	225	1.9 x 1.6
	44	5	19.2	7.5	144	8.8	169	11.0	211	1.9 x 1.6
	51	5	16.5	8.7	144	10.2	168	12.7	211	1.9 x 1.6
	64	5	13.2	10.9	144	12.8	169	16.0	211	1.9 x 1.6
	76	5	10.9	12.9	141	15.2	166	19.0	207	1.9 x 1.6
	305	5	2.6	51.9	135	61.0	159	76.3	198	1.9 x 1.6
12.5	25	6.3	58.5	4.3	252	5.0	293	6.2	369	2.6 x 2.0
	32	6.3	43.9	5.4	237	6.4	281	8.0	351	2.6 x 2.0
	38	6.3	36.0	6.5	234	7.6	274	9.5	342	2.6 x 2.0
	44	6.3	30.3	7.5	227	8.8	267	11.0	333	2.6 x 2.0
	51	6.3	26.2	8.7	228	10.2	267	12.7	335	2.6 x 2.0
	64	6.3	21.2	10.9	231	12.8	271	16.0	339	2.6 x 2.0
	76	6.3	17.1	12.9	221	15.2	260	19.0	325	2.6 x 2.0
	89	6.3	14.5	15.1	219	17.8	258	22.2	323	2.6 x 2.0
	305	6.3	4.3	51.9	223	61.0	262	76.3	328	2.6 x 2.0

ISO Die Spring

-High load

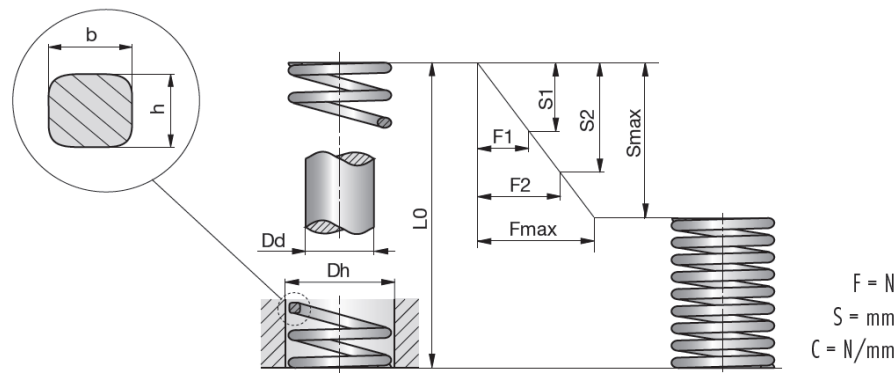


$F = N$
 $S = mm$
 $C = N/mm$

Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
16	25	8	118.0	4.3	507	5.0	590	6.2	743	3.2 x 2.9
	32	8	89.0	5.4	481	6.4	570	8.0	712	3.2 x 2.9
	38	8	72.1	6.5	469	7.6	548	9.5	685	3.2 x 2.9
	44	8	60.9	7.5	457	8.8	536	11.0	670	3.2 x 2.9
	51	8	52.3	8.7	455	10.2	533	12.7	669	3.2 x 2.9
	64	8	41.2	10.9	449	12.8	527	16.0	659	3.2 x 2.9
	76	8	34.1	12.9	440	15.2	518	19.0	648	3.2 x 2.9
	89	8	29.5	15.1	445	17.8	525	22.2	658	3.2 x 2.9
	102	8	25.6	17.3	443	20.4	522	25.5	653	3.2 x 2.9
	305	8	8.4	51.9	436	61.0	512	76.3	641	3.2 x 2.9
20	25	10	293.0	4.3	1260	5.0	1465	6.2	1846	4.1 x 3.8
	32	10	224.0	5.4	1210	6.4	1434	8.0	1792	4.1 x 3.8
	38	10	177.0	6.5	1151	7.6	1345	9.5	1682	4.1 x 3.8
	44	10	149.0	7.5	1118	8.8	1311	11.0	1639	4.1 x 3.8
	51	10	128.0	8.7	1114	10.2	1306	12.7	1638	4.1 x 3.8
	64	10	99.0	10.9	1079	12.8	1267	16.0	1584	4.1 x 3.8
	76	10	81.7	12.9	1054	15.2	1242	19.0	1552	4.1 x 3.8
	89	10	69.5	15.1	1049	17.8	1237	22.2	1550	4.1 x 3.8
	102	10	60.6	17.3	1048	20.4	1236	25.5	1545	4.1 x 3.8
	115	10	53.0	19.6	1039	23.0	1219	28.7	1526	4.1 x 3.8
	127	10	47.5	21.6	1026	25.4	1207	31.7	1511	4.1 x 3.8
	139	10	43.0	23.8	1023	28.0	1204	34.7	1505	4.1 x 3.8
	152	10	39.0	25.8	1006	30.4	1186	38.0	1482	4.1 x 3.8
	305	10	21.2	51.9	1100	61.0	1293	76.3	1618	4.1 x 3.8

ISO Die Spring

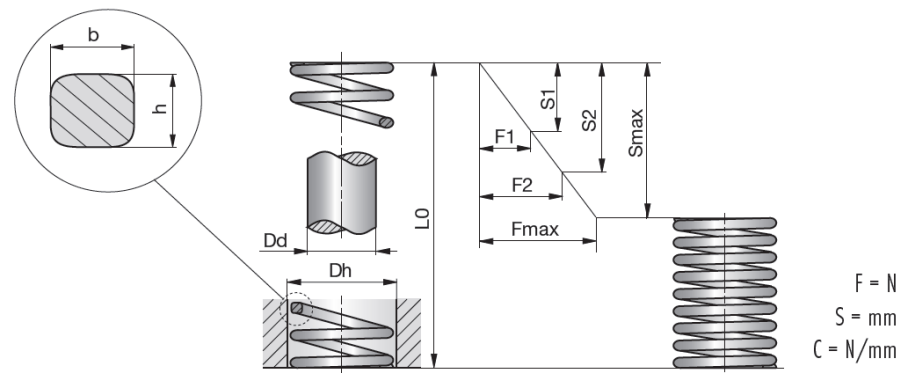
-High load



Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
25	25	12.5	375.0	5.0	1875	6.3	2363	7.5	2813	5.4 x 4.6
	32	12.5	374.4	5.4	2022	6.4	2396	8.0	2995	5.4 x 4.6
	38	12.5	300.0	6.5	2249	7.6	2630	9.5	3287	5.4 x 4.6
	44	12.5	244.0	7.5	1830	8.8	2147	11.0	2684	5.4 x 4.6
	51	12.5	207.5	8.7	1805	10.2	2117	12.7	2656	5.4 x 4.6
	64	12.5	161.0	10.9	1755	12.8	2061	16.0	2576	5.4 x 4.6
	76	12.5	130.8	12.9	1687	15.2	1988	19.0	2485	5.4 x 4.6
	89	12.5	110.5	15.1	1669	17.8	1967	22.2	2464	5.4 x 4.6
	102	12.5	96.3	17.3	1666	20.4	1965	25.5	2456	5.4 x 4.6
	115	12.5	85.7	19.6	1680	23.0	1971	28.7	2468	5.4 x 4.6
	127	12.5	76.3	21.6	1648	25.4	1938	31.7	2426	5.4 x 4.6
	139	12.5	68.9	23.8	1640	28.0	9129	34.7	2412	5.4 x 4.6
	152	12.5	63.5	25.8	1638	30.4	1930	34.7	2413	5.4 x 4.6
	178	12.5	53.9	30.3	1633	35.6	1919	44.5	2399	5.4 x 4.6
	203	12.5	47.0	34.5	1622	40.6	1908	50.7	2388	5.4 x 4.6
32	305	12.5	30.9	51.9	1604	61.0	1885	76.3	2358	5.4 x 4.6
	38	16	180.0	6.5	3433	7.6	4014	9.5	5018	7.3 x 5.9
	44	16	390.0	7.5	3183	8.8	3735	11.0	4668	7.3 x 5.9
	51	16	320.0	8.7	3071	10.2	3601	12.7	4518	7.3 x 5.9
	64	16	269.2	10.9	2934	12.8	3446	16.0	4307	7.3 x 5.9
	76	16	218.5	12.9	2819	15.2	3321	19.0	4152	7.3 x 5.9
	89	16	180.3	15.1	2723	17.8	3209	22.2	4021	7.3 x 5.9
	102	16	155.0	17.3	2682	20.4	3162	25.5	3953	7.3 x 5.9
	115	16	140.0	19.6	2744	23.0	3220	28.7	40032	7.3 x 5.9
	127	16	124.0	21.6	2678	25.4	3150	31.7	3943	7.3 x 5.9
	139	16	112.3	23.8	2673	28.0	3144	34.7	3931	7.3 x 5.9
	152	16	102.0	25.8	2632	30.4	3101	38.0	3876	7.3 x 5.9
	178	16	88.2	30.3	2672	35.6	3140	44.5	3925	7.3 x 5.9
	203	16	76.0	34.5	2622	40.6	3086	50.7	3861	7.3 x 5.9
	254	16	60.8	43.2	2627	50.8	3089	64.0	3861	7.3 x 5.9
	305	16	49.0	51.9	2543	61.0	2989	76.3	3739	7.3 x 5.9

ISO Die Spring

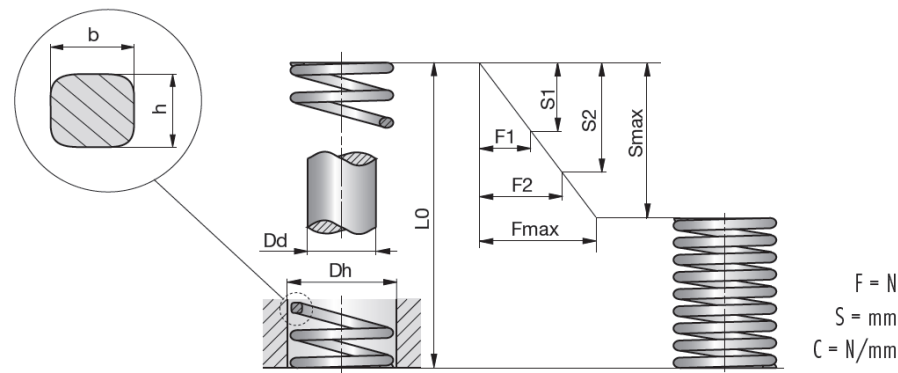
-High load



Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
40	51	20	628.0	8.7	5464	10.2	6406	12.7	8038	8.4 x 7.5
	64	20	487.0	10.9	5308	12.8	6234	16.0	7792	8.4 x 7.5
	76	20	379.0	12.9	4889	15.2	5761	19.0	7201	8.4 x 7.5
	89	20	321.0	15.1	4847	17.8	5714	22.2	7158	8.4 x 7.5
	102	20	281.0	17.3	4861	20.4	5732	25.5	7166	8.4 x 7.5
	115	20	245.0	19.6	4802	23.0	5635	28.7	7056	8.4 x 7.5
	127	20	221.0	21.6	4774	25.4	5613	31.7	7028	8.4 x 7.5
	139	20	195.0	23.8	4641	28.0	5460	34.7	6825	8.4 x 7.5
	152	20	168.0	25.8	4334	30.4	5107	38.0	6384	8.4 x 7.5
	178	20	150.0	30.3	4545	35.6	5340	44.5	6675	8.4 x 7.5
	203	20	132.0	34.5	4554	40.6	5359	50.7	6706	8.4 x 7.5
	254	20	107.0	43.2	4622	50.8	5436	64.0	6795	8.4 x 7.5
50	305	20	87.8	51.9	4557	61.0	5356	76.6	6699	8.4 x 7.5
	64	25	709.0	10.9	7728	12.8	9075	16.0	11344	11.5 x 9.0
	76	25	572.0	12.9	7379	15.2	8694	19.0	10868	11.5 x 9.0
	89	25	475.0	15.1	7173	17.8	8455	22.2	10593	11.5 x 9.0
	102	25	405.0	17.3	7007	20.4	8262	25.5	10328	11.5 x 9.0
	115	25	352.0	19.6	6899	23.0	8096	28.7	10138	11.5 x 9.0
	127	25	316.0	21.6	6826	25.4	8026	31.7	10049	11.5 x 9.0
	139	25	274.0	23.8	6521	28.0	7672	34.7	9590	11.5 x 9.0
	152	25	239.0	25.8	6166	30.4	7266	38.0	9082	11.5 x 9.0
	178	25	215.0	30.3	6515	35.6	7654	44.5	9568	11.5 x 9.0
	203	25	187.0	34.5	6452	40.6	7592	50.7	9500	11.5 x 9.0
	254	25	153.0	43.2	6610	50.8	7772	64.0	9716	11.5 x 9.0
	305	25	127.0	51.9	6591	61.0	7747	76.3	9690	11.5 x 9.0

ISO Die Spring

-High load



Dh	L0	Dd	C	S1	F1	S2	F2	Smax	Fmax	b x h
40	51	20	628.0	8.7	5464	10.2	6406	12.7	8038	8.4 x 7.5
	64	20	487.0	10.9	5308	12.8	6234	16.0	7792	8.4 x 7.5
	76	20	379.0	12.9	4889	15.2	5761	19.0	7201	8.4 x 7.5
	89	20	321.0	15.1	4847	17.8	5714	22.2	7158	8.4 x 7.5
	102	20	281.0	17.3	4861	20.4	5732	25.5	7166	8.4 x 7.5
	115	20	245.0	19.6	4802	23.0	5635	28.7	7056	8.4 x 7.5
	127	20	221.0	21.6	4774	25.4	5613	31.7	7028	8.4 x 7.5
	139	20	195.0	23.8	4641	28.0	5460	34.7	6825	8.4 x 7.5
	152	20	168.0	25.8	4334	30.4	5107	38.0	6384	8.4 x 7.5
	178	20	150.0	30.3	4545	35.6	5340	44.5	6675	8.4 x 7.5
	203	20	132.0	34.5	4554	40.6	5359	50.7	6706	8.4 x 7.5
	254	20	107.0	43.2	4622	50.8	5436	64.0	6795	8.4 x 7.5
50	305	20	87.8	51.9	4557	61.0	5356	76.6	6699	8.4 x 7.5
	64	25	709.0	10.9	7728	12.8	9075	16.0	11344	11.5 x 9.0
	76	25	572.0	12.9	7379	15.2	8694	19.0	10868	11.5 x 9.0
	89	25	475.0	15.1	7173	17.8	8455	22.2	10593	11.5 x 9.0
	102	25	405.0	17.3	7007	20.4	8262	25.5	10328	11.5 x 9.0
	115	25	352.0	19.6	6899	23.0	8096	28.7	10138	11.5 x 9.0
	127	25	316.0	21.6	6826	25.4	8026	31.7	10049	11.5 x 9.0
	139	25	274.0	23.8	6521	28.0	7672	34.7	9590	11.5 x 9.0
	152	25	239.0	25.8	6166	30.4	7266	38.0	9082	11.5 x 9.0
	178	25	215.0	30.3	6515	35.6	7654	44.5	9568	11.5 x 9.0
	203	25	187.0	34.5	6452	40.6	7592	50.7	9500	11.5 x 9.0
	254	25	153.0	43.2	6610	50.8	7772	64.0	9716	11.5 x 9.0
	305	25	127.0	51.9	6591	61.0	7747	76.3	9690	11.5 x 9.0

Japanese Standard Die Spring

-Extremely light load



Type of die spring	Ext. Diameter	Int. Diameter	Extreme Compression ratio	Extreme pressure	
	mm	mm		N	kg
Extremely light load(yellow)	6	3+	50%	59	6
	8	4+		79	8
	10	5+		98	10
	12	6+		137	14
	14	7+		177	18
	16	8+		206	21
	18	9+		255	26
	20	10+		314	32
	22	11+		392	40
	25	12.5+		490	50
	27	13.5+		588	60
	30	15+		706	72
	35	17.5+		960	98
	40	20+		1254	128
	50	25+		1960	200
	60	30+		2820	288
	70	38+		3920	400

Japanese Standard Die Spring

-Light load



Type of die spring	Ext. Diameter	Int. Diameter	Extreme Compression ratio	Extreme pressure	
	mm	mm		N	kg
Light load(blue)	6	3+	40%	78	8
	8	4+		98	10
	10	5+		137	14
	12	6+		206	21
	14	7+		275	28
	16	8+		343	35
	18	9+		422	43
	20	10+		530	54
	22	11+		657	67
	25	12.5+		824	84
	27	13.5+		981	100
	30	15+		1186	121
	35	17.5+		1617	165
	40	20+		2117	216
	50	25+		3312	338
	60	30+		4770	486
	70	38+		5978	610

Japanese Standard Die Spring

-Medium load



Type of die spring	Ext. Diameter	Int. Diameter	Extreme Compression ratio	Extreme pressure	
	mm	mm		N	kg
Medium load(red)	6	3+	32%	98	10
	8	4+		137	14
	10	5+		196	20
	12	6+		284	29
	14	7+		383	39
	16	8+		500	51
	18	9+		637	65
	20	10+		784	80
	22	11+		951	97
	25	12.5+		1225	125
	27	13.5+		1431	146
	30	15+		1765	180
	35	17.5+		2401	245
	40	20+		3138	320
	50	25+		4900	500
	60	30+		7056	720
	70	38+		8330	850

Japanese Standard Die Spring

-Heavy load



Type of die spring	Ext. Diameter	Int. Diameter	Extreme Compression ratio	Extreme pressure	
	mm	mm		N	kg
Heavy load(green)	6	3+	24%	137	14
	8	4+		206	21
	10	5+		294	30
	12	6+		421	43
	14	7+		578	59
	16	8+		755	77
	18	9+		951	97
	20	10+		1176	120
	22	11+		1421	145
	25	12.5+		1833	187
	27	13.5+		2146	219
	30	15+		2646	270
	35	17.5+		3597	367
	40	20+		4704	480
	50	25+		7350	750
	60	30+		10584	1079
	70	38+		12557	1280

Japanese Standard Die Spring

-Extra heavy load



Type of die spring	Etx. Diameter	Int. Diameter	Extreme Compression ratio	Extreme pressure	
	mm	mm		N	kg
Extra heavy load(brown)	6	3+	20%	177	18
	8	4+		323	33
	10	5+		441	45
	12	6+		569	58
	14	7+		736	75
	16	8+		980	100
	18	9+		1225	125
	20	10+		1568	160
	22	11+		1912	195
	25	12.5+		2403	245
	27	13.5+		2844	290
	30	15+		3530	360
	35	17.5+		4802	490
	40	20+		6272	640
	50	25+		9800	1000
	60	30+		14112	1440
	70	38+		17069	1740

US Standard Die Spring

-Light load



Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Light load(blue)	9.5	4.7	25.4	9.8	12.7	124
			31.8	8.4	15.9	134
			38.1	6.6	19.1	125
			44.5	5.9	22.3	131
			50.8	4.9	25.4	124
			63.5	4.2	31.8	134
			76.2	3.2	38.1	12
			305	1	152.5	153
	13	7	25.4	17.5	12.7	222
			31.8	16.1	15.9	256
			38.1	13.3	19.1	254
			44.5	11.9	22.3	265
			50.8	11.2	25.4	284
			63.5	9.1	31.8	289
			76.2	7	38.1	267
			88.9	5.3	44.4	236
			305	1.4	152.5	214
	16	8.7	25.4	24.9	12.7	316
			31.8	22.4	15.9	356
			38.1	18.9	19.1	665
			44.5	16.8	22.3	373
			50.8	15.4	25.4	391
			63.5	10.5	31.8	333
			76.2	9.8	38.1	373
			88.9	8.4	44.4	374
			101.6	7.7	50.8	391
			305	2.5	152.5	381

US Standard Die Spring

-Light load

Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Light load(blue)	19.5	9.5	25.4	56.1	12.7	712
			31.8	44.8	15.9	712
			38.1	35	19.1	665
			44.5	30.8	22.3	684
			50.8	25.2	25.4	640
			63.5	21	31.8	666
			76.2	16.8	38.1	640
			88.9	14	44.4	623
			101.6	12.6	50.8	640
			114.3	11.2	57.2	641
			127	9.8	63.5	622
			139.7	8.4	69.9	586
			152.4	7	76.2	533
			305	402	152.5	641
	25.5	13	25.4	93.9	12.7	1193
			31.8	76.4	15.9	1215
			38.1	58.8	19.1	1117
			44.5	50.4	23.3	1119
			50.8	40.6	25.4	1031
			63.5	35	31.8	1110
			76.2	26.6	38.1	1013
			88.9	22.4	44.4	997
			101.6	21	50.8	1067
			114.3	18.2	57.2	1039
			127	16.8	63.5	1067
			139.7	15.4	69.9	1075
			152.4	14	76.2	1067
			177.8	12.6	88.9	1120
			203.2	9.8	101.6	996
			305	7	152.4	1068

US Standard Die Spring

-Light load

Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Light load(blue)	32	16	38.1	86.9	19.1	1651
			44.5	74.2	22.3	1647
			50.8	61.7	25.4	1567
			63.5	50.4	31.8	1598
			76.2	42	38.1	1600
			88.9	35	44.4	1558
			101.6	30.8	50.8	1565
			114.3	28	57.2	1602
			127	23.8	63.5	1511
			139.7	22.4	69.9	1564
			152.4	21	76.2	1600
			177.8	18.2	88.9	1618
			203.2	15.4	101.6	1565
			254	12.6	127	1600
			305	9.8	152.4	1495
	38.5	19.5	50.8	78.5	25.4	1994
			63.5	64.4	31.8	2041
			76.2	58.8	38.1	2240
			88.9	46.3	44.2	2060
			101.6	37.8	50.8	1920
			114.3	36.4	57.2	2078
			127	35	63.5	2223
			139.7	29.4	69.9	2052
			152.4	25.2	76.2	1920
			177.8	23.8	88.9	2116
			203	22.4	101.6	2276
			254	15.4	127	1956
			305	14	152.5	2135

US Standard Die Spring

-Light load

Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Light load(blue)	51	25.5	63.5	156.9	31.8	4989
			76.2	134.5	38.1	5124
			88.9	113.5	44.2	5051
			101.6	96.7	50.8	4912
			114.3	82.7	57.2	4744
			127	72.9	63.5	4629
			139.7	68.9	69.9	4788
			152.4	61.7	76.2	4702
			177.8	54.6	88.9	4854
			203.2	44.8	101.6	4552
			254	36.4	127	4623
			305	29.4	152.5	4484

US Standard Die Spring

-Medium load

Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Medium load(red)	9.5	4.7	25.4	15.8	16	149
			31.8	12.8	20	151
			38.1	11.7	24	165
			44.5	10.2	28	168
			50.8	8.8	32	165
			63.5	7.4	40	174
			76.2	5.3	48	149
			305	1.6	192	181
	13	7	25.4	29.4	16	276
			31.8	24.4	20	232
			38.1	21	24	296
			44.5	18.2	28	300
			50.8	15.2	32	286
			63.5	12.5	40	294
			76.2	10	48	282
			88.9	8.2	56	270
			305	2.1	192	237
	16	8.7	25.4	48.5	16	456
			31.8	36.4	20	430
			38.1	33.3	24	470
			44.5	29.4	28	485
			50.8	25.9	32	487
			63.5	20.2	40	475
			76.2	17.5	48	494
			88.9	14.9	56	490
			101.6	13.3	68.1	446
			305	4.7	192	531



US Standard Die Spring

-Medium load

Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Medium load(red)	19.5	9.5	25.4	100.9	16	948
			31.8	77.1	20	910
			38.1	56.1	24	791
			44.5	50.4	28	832
			50.8	43.4	32	816
			63.5	33.6	40	790
			76.2	25.2	48	711
			88.9	22.4	56	737
			101.6	21	68.1	704
			114.3	19.6	72	829
			127	18.2	80	855
			139.7	16.8	88	869
			152.4	14	96	790
			305	6.3	192	712
	25.5	13	25.4	129.1	16	1213
			31.8	109.3	20	1289
			38.1	86.9	24	1225
			44.5	77.1	28	1272
			50.8	64.4	32	1211
			63.5	50.4	40	1184
			76.2	40.6	48	1145
			88.9	37.8	56	1244
			101.6	32.2	68.1	1085
			114.3	26.2	72	1125
			127	25.2	80	1184
			139.7	22.4	88	1158
			152.4	19.6	96	1105
			177.8	16.8	112	1105
			203.2	15.4	128	1158
			305	9.8	192	1107

US Standard Die Spring

-Medium load

Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Medium load(red)	32	16	38.1	200.3	24	2824
			44.5	176.5	28	2912
			50.8	151.3	32	2844
			63.5	109.3	40	2569
			76.2	89.7	48	2530
			88.9	74.4	56	2448
			101.6	64.4	68.1	2157
			114.3	56.1	72	2373
			127	45	80	2115
			139.7	46.3	88	2394
			152.4	40.6	96	2290
			177.8	35	112	2303
			203.2	32.2	128	2421
			254	22.4	160	2106
			305	19.6	192	2215
	38.5	19.5	50.8	189.1	32	3555
			63.5	149.9	40	3527
			76.2	109.3	48	3082
			88.9	92.5	56	3025
			101.6	84.1	68.1	2817
			114.3	75.7	72	3202
			127	64.4	80	3027
			139.7	60.2	88	3112
			152.4	53.2	96	3000
			177.8	46.3	112	3047
			203	36.4	128	2737
			254	30.8	160	2895
			305	25.2	192	2870

US Standard Die Spring

-Medium load

Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Medium load(red)	51	25.5	63.5	207.4	40	4874
			76.2	168.1	48	4740
			88.9	140.1	56	4609
			101.6	116.3	68.1	3896
			114.3	105.1	72	4446
			127	98.1	80	4611
			139.7	88.3	88	4565
			152.4	82.7	96	4664
			177.8	70	112	4606
			203.2	61.7	128	4640
			254	42	160	3948
			305	39.2	192	4430

US Standard Die Spring

-Heavy load



Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Heavy load(yellow)	0.5	4.7	25.4	21.7	17.8	165
			31.8	17.2	22.3	163
			38.1	16.8	26.7	192
			44.5	14.7	31.2	196
			50.8	12.6	35.6	192
			63.5	10.5	44.5	200
			76.2	7.4	53.5	169
			305	2.1	213.5	192
	13	7	25.4	41.3	17.8	314
			31.8	32.6	22.3	310
			38.1	28.7	26.7	328
			44.5	24.2	31.2	322
			50.8	19.3	35.6	293
			63.5	15.8	44.5	300
			76.2	13	53.3	285
			88.9	11.2	62.2	299
			305	2.8	213.5	256
	16	8.7	25.4	74.2	17.8	564
			31.8	51.8	22.3	492
			38.1	47.6	26.7	543
			44.5	42	31.2	559
			50.8	36.4	35.6	553
			63.5	29.8	44.5	566
			76.2	25.2	53.3	577
			88.9	21.3	62.2	569
			101.6	18.9	71.1	576
			305	7	213.5	648

US Standard Die Spring

-Heavy load

Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Heavy load(yellow)	19.5	9.5	25.4	189.1	17.8	1362
			31.8	154.1	22.3	1464
			38.1	114.9	26.7	1310
			44.5	105.1	31.2	1398
			50.8	86.9	35.6	1321
			63.5	65.9	44.5	1252
			76.2	54.6	53.3	1250
			88.9	46.3	62.2	1236
			101.6	40.6	71.1	1238
			114.3	35	80	1201
			127	30.8	88.9	1173
			139.7	28	97.8	1173
			152.4	25.2	106.7	1152
			305	12.6	213.5	1153
	25.5	13	25.4	364.3	17.8	2769
			31.8	300	22.3	2850
			38.1	207.4	26.7	2364
			44.5	182.1	31.2	2422
			50.8	147.1	35.6	2236
			63.5	119.1	44.5	2263
			76.2	95.3	53.3	2182
			88.9	79.8	62.2	2131
			101.6	70	71.1	2135
			114.3	61.6	80	2113
			127	54.6	88.9	2080
			139.7	50.4	97.8	2112
			152.4	44.8	106.7	2047
			177.8	39.2	124.4	2093
			203.2	33.6	142.2	2095
			305	21	213.5	1922

US Standard Die Spring

-Heavy load

Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Heavy load(yellow)	32	16	38.1	371.3	26.7	4233
			44.5	318	31.2	4229
			50.8	262	35.6	3982
			63.5	205.9	44.5	3912
			76.2	166.7	53.3	3817
			88.9	131.7	62.2	3516
			101.6	116.3	71.1	3547
			114.3	102.3	80	3509
			127	86.9	88.9	3311
			139.7	82.7	97.8	3465
			152.4	74.2	106.7	3391
			177.8	64.4	124.4	3439
			203.2	57.4	142.2	3501
			254	44.8	177.8	3414
			305	36.4	213.5	3331
	38.5	19.5	508	333.4	35.6	5068
			63.5	260.6	44.5	4951
			76.2	214.4	53.3	4910
			88.9	186.3	62.2	4979
			101.6	159.7	71.1	4871
			114.3	137.3	80	4709
			127	124.7	88.9	4751
			139.7	112.1	97.8	4697
			152.4	102.3	106.7	4675
			177.8	86.9	124.4	4640
			203	75.7	142.2	5034
			254	60.2	177.8	4587
			305	50.4	213.5	4612

US Standard Die Spring

-Heavy load

Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Heavy load(yellow)	51	25.5	63.5	386.3	44.5	7321
			76.2	325.1	53.3	7445
			88.9	280.2	62.2	6361
			101.6	234	71.1	7137
			114.3	205.9	80	7062
			127	182.1	88.9	6938
			139.7	162.5	97.8	6809
			152.4	145.7	106.7	6658
			177.8	128.9	124.4	6883
			203.2	112.1	142.2	6838
			254	85.5	177.8	6515
			305	70	213.5	6405

US Standard Die Spring

-Extra heavy load



Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Extremely heavy load(green)	9.5	4.7	25.4	38.5	19.1	243
			31.8	29.8	23.9	235
			38.1	25.4	28.6	241
			44.5	20.2	33.4	224
			50.8	17.5	38.1	222
			63.5	14	47.6	223
			76.2	11.4	57.2	219
			305	2.6	228.8	201
	13	7	25.4	56.1	19.1	353
			31.8	42	23.9	332
			38.1	35	28.6	333
			44.5	29.1	33.4	331
			50.8	24.5	38.1	311
			63.5	20.2	47.6	321
			76.2	15.7	57.2	298
			88.9	14	66.7	311
			305	4.4	228	335
	16	8.7	25.4	110.3	19.1	695
			31.8	82.3	23.9	650
			38.1	66.6	28.6	633
			44.5	56.1	33.4	623
			50.8	50.8	38.1	645
			63.5	38.5	47.6	612
			76.2	31.56	57.2	599
			88.9	28	66.7	622
			101.6	23.6	76.2	599
			305	7.9	228.8	602

US Standard Die Spring

-Extra heavy load

Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Extremely heavy load(green)	19.5	9.5	25.4	245.2	19.1	1545
			31.8	192.7	23.9	1522
			38.1	155.8	28.6	1480
			44.5	131.3	33.4	1457
			50.8	111.2	38.1	1412
			63.5	87.6	47.6	1393
			76.2	70.9	57.2	1347
			88.9	60.4	66.7	1341
			101.6	52.6	76.2	1336
			114.3	46.4	85.7	1327
			127	41.2	95.3	1306
			139.7	37.7	104.8	1316
			152.4	34.1	114.3	1299
			305	16.7	228.8	1273
	25.5	13	101.6	323.7	28.6	3075
			50.8	203.2	38.1	2581
			63.5	156.9	47.6	2495
			76.2	128.9	57.2	2449
			88.9	109.3	66.7	2426
			101.6	96.7	76.2	2456
			114.3	85.5	85.7	2455
			127	75.7	95.3	2400
			152.4	63	114.3	2400
			305	30.8	228.8	2347

US Standard Die Spring

-Extra heavy load

Type of die spring	Ext. diameter	Int. diameter	Free length	Spring const.	Operation limit	
	mm	mm	mm	N/mm	Deflection (mm)	Load (N)
Extremely heavy load(green)	32	16	50.8	336.2	38.1	4270
			63.5	252.2	47.6	4010
			76.2	207.4	57.2	3941
			88.9	176.5	66.7	3918
			101.6	147.1	76.2	3736
			114.3	137.3	85.7	3927
			127	119.1	95.3	375
			152.4	98.1	114.3	3738
			203.2	72.9	152.4	3703
			254	58.8	190.5	3146
			305	46.3	228.8	7262
	38.5	19.5	50.8	658.5	38.1	8363
			63.5	515.6	47.6	8198
			76.2	404.9	57.2	7693
			88.9	343.3	66.7	7621
			101.6	300	76.2	7620
			114.3	259.2	85.7	7413
			127	238.2	95.3	7789
			152.4	193.4	114.3	7369
			203	141.5	152.4	7188
			254	117.7	190.5	7474
			305	95.3	228.8	7262
	51	25.5	63.5	668.3	47.6	10626
			76.2	546.4	57.2	10382
			88.9	445.5	66.7	9890
			101.6	385.3	76.2	9787
			114.3	330.7	85.7	9458
			127	302.6	95.3	9592
			152.4	248	114.3	9449
			203	175.1	152.4	8895
			254	147.1	190.5	9341
			305	124.7	228.8	9502