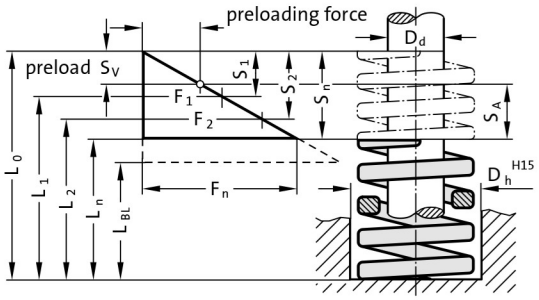
HIGH PERFORMANCE COMPRESSION SPRING, XSF, COLOUR "VIOLET"

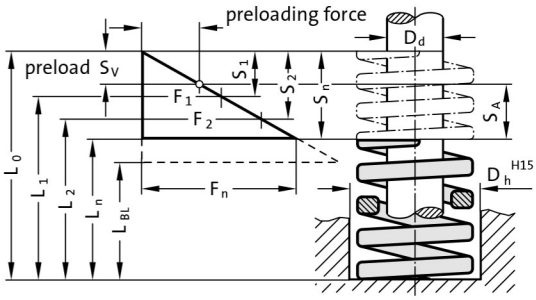


D_h = dia. of guide sleeve
D_d = diameter of guide pin
L_0 = free length of spring
$L_1...L_n$ = length of loaded spring (mm) as related to spring forces $F_1...F_n$
L_{BL} = length of compacted spring (i.e. wire-to-wire)
$F_1...F_n$ = forces (N) as related to length of spring $L_1...L_n$
$S_{V1}...S_{V7}$ = recommend. preload. compression, as relat. to compress. $S_1...S_7$
$S_1...S_n$ = compr. as related to spring forces $F_1...F_n$
R = spring rate (N/mm)
$S_{A1}...S_{A7}$ = working stroke (mm)

241.13. High performance compression spring, XSF, Colour "Violet"

					45%				62%				80%				100%	
Order No	D_h	D_d	L_0	R	S_1	S_{V1}	S_{A1}	F_1	S_2	S_{V2}	S_{A2}	F_2	S_3	S_{V3}	S_{A3}	F_3	S_n	F_n
241.13.20.025	20	10	25	32.1	6.3	1.8	4.5	202	8.7	4.2	4.5	279	11.2	8.1	3.1	360	14	449
241.13.20.032	20	10	32	24.7	8.1	2.3	5.8	200	11.2	5.4	5.8	276	14.4	10.4	4	356	18	445
241.13.20.038	20	10	38	20.7	9.9	2.9	7	205	13.6	6.6	7	282	17.6	12.8	4.8	364	22	455
241.13.20.044	20	10	44	17.8	11.7	3.4	8.3	208	16.1	7.8	8.3	287	20.8	15.1	5.7	370	26	463
241.13.20.051	20	10	51	15.3	13.5	3.9	9.6	207	18.6	9	9.6	285	24	17.4	6.6	367	30	459
241.13.20.064	20	10	64	12.1	17.1	4.9	12.2	207	23.6	11.4	12.2	285	30.4	22	8.4	368	38	460
241.13.20.076	20	10	76	10.2	20.2	5.8	14.4	207	27.9	13.5	14.4	285	36	26.1	9.9	367	45	459
241.13.20.089	20	10	89	8.6	23.8	6.9	17	205	32.9	15.9	17	283	42.4	30.7	11.7	365	53	456
241.13.20.102	20	10	102	7.5	27.9	8.1	19.8	209	38.4	18.6	19.8	288	49.6	36	13.6	372	62	465
241.13.20.115	20	10	115	6.7	31.5	9.1	22.4	211	43.4	21	22.4	291	56	40.6	15.4	375	70	469
241.13.20.127	20	10	127	6.1	34.6	10	24.6	211	47.7	23.1	24.6	291	61.6	44.7	16.9	376	77	470
241.13.20.139	20	10	139	5.5	38.2	11	27.2	210	52.7	25.5	27.2	290	68	49.3	18.7	374	85	468
241.13.20.152	20	10	152	5.1	41.8	12.1	29.8	213	57.7	27.9	29.8	294	74.4	53.9	20.5	379	93	474
241.13.20.305	20	10	305	2.5	84.6	24.4	60.2	212	116.6	56.4	60.2	291	150.4	109	41.4	376	188	470
241.13.25.025	25	12	25	52.7	6.3	1.8	4.5	332	8.7	4.2	4.5	457	11.2	8.1	3.1	590	14	738
241.13.25.032	25	12	32	40	8.1	2.3	5.8	324	11.2	5.4	5.8	446	14.4	10.4	4	576	18	720
241.13.25.038	25	12	38	33.3	9.9	2.9	7	330	13.6	6.6	7	454	17.6	12.8	4.8	586	22	733
241.13.25.044	25	12	44	28.6	11.2	3.2	8	322	15.5	7.5	8	443	20	14.5	5.5	572	25	715
241.13.25.051	25	12	51	24.7	13.5	3.9	9.6	333	18.6	9	9.6	459	24	17.4	6.6	593	30	741
241.13.25.064	25	12	64	19.4	17.1	4.9	12.2	332	23.6	11.4	12.2	457	30.4	22	8.4	590	38	737
241.13.25.076	25	12	76	16.3	20.2	5.8	14.4	330	27.9	13.5	14.4	455	36	26.1	9.9	587	45	734
241.13.25.089	25	12	89	15.9	23.8	6.9	17	379	32.9	15.9	17	522	42.4	30.7	11.7	674	53	843
241.13.25.102	25	12	102	12.1	27.4	7.9	19.5	332	37.8	18.3	19.5	458	48.8	35.4	13.4	590	61	738
241.13.25.115	25	12	115	10.8	31.5	9.1	22.4	340	43.4	21	22.4	469	56	40.6	15.4	605	70	756
241.13.25.127	25	12	127	9.8	34.6	10	24.6	340	47.7	23.1	24.6	468	61.6	44.7	16.9	604	77	755
241.13.25.139	25	12	139	8.9	38.2	11	27.2	340	52.7	25.5	27.2	469	68	49.3	18.7	605	85	756
241.13.25.152	25	12	152	8.1	41.8	12.1	29.8	339	57.7	27.9	29.8	467	74.4	53.9	20.5	603	93	753
241.13.25.178	25	12	178	6.9	49	14.2	34.9	338	67.6	32.7	34.9	466	87.2	63.2	24	602	109	752
241.13.25.203	25	12	203	6.1	55.8	16.1	39.7	340	76.9	37.2	39.7	469	99.2	71.9	27.3	605	124	756
241.13.25.305	25	12	305	4	84.6	24.4	60.2	338	116.6	56.4	60.2	466	150.4	109	41.4	602	188	752
241.13.32.038	32	16	38	43.8	9.9	2.9	7	434	13.6	6.6	7	597	17.6	12.8	4.8	771	22	964
241.13.32.044	32	16	44	37.5	11.7	3.4	8.3	439	16.1	7.8	8.3	604	20.8	15.1	5.7	780	26	975
241.13.32.051	32	16	51	32.3	14	4	9.9	451	19.2	9.3	9.9	621	24.8	18	6.8	801	31	1001
241.13.32.064	32	16	64	25.4	17.6	5.1	12.5	446	24.2	11.7	12.5	614	31.2	22.6	8.6	792	39	991
241.13.32.076	32	16	76	21.3	21.2	6.1	15	450	29.1	14.1	15	621	37.6	27.3	10.3	801	47	1001
241.13.32.089	32	16	89	18.1	25.2	7.3	17.9	456	34.7	16.8	17.9	628	44.8	32.5	12.3	811	56	1014
241.13.32.102	32	16	102	15.8	28.8	8.3	20.5	455	39.7	19.2	20.5	627	51.2	37.1	14.1	809	64	1011
241.13.32.115	32	16	115	13.9	32.8	9.5	23.4	457	45.3	21.9	23.4	629	58.4	42.3	16.1	812	73	1015
241.13.32.127	32	16	127	12.6	36.4	10.5	25.9	459	50.2	24.3	25.9	633	64.8	47	17.8	816	81	1021
241.13.32.139	32	16	139	11.4	40	11.6	28.5	457	55.2	26.7	28.5	629	71.2	51.6	19.6	812	89	1015
241.13.32.152	32	16	152	10.5	43.6	12.6	31	458	60.1	29.1	31	631	77.6	56.3	21.3	815	97	1018
241.13.32.178	32	16	178	8.9	51.3	14.8	36.5	457	70.7	34.2	36.5	629	91.2	66.1	25.1	812	114	1015
241.13.32.203	32	16	203	7.8	59	17	41.9	460	81.2	39.3	41.9	634	104.8	76	28.8	817	131	1022
241.13.32.254	32	16	254	6.2	73.4	21.2	52.2	455	101.1	48.9	52.2	627	130.4	94.5	35.9	808	163	1011

HIGH PERFORMANCE COMPRESSION SPRING, XSF, COLOUR "VIOLET"

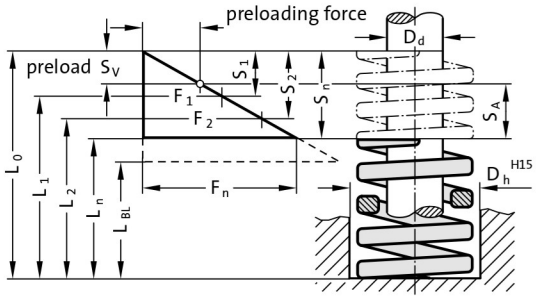


D_h = dia. of guide sleeve
D_d = diameter of guide pin
L_0 = free length of spring
$L_1...L_n$ = length of loaded spring (mm) as related to spring forces $F_1...F_n$
L_{BL} = length of compacted spring (i.e. wire-to-wire)
$F_1...F_n$ = forces (N) as related to length of spring $L_1...L_n$
$S_{V1}...S_{V7}$ = recommend. preload. compression, as relat. to compress. $S_1...S_7$
$S_1...S_n$ = compr. as related to spring forces $F_1...F_n$
R = spring rate (N/mm)
$S_{A1}...S_{A7}$ = working stroke (mm)

241.13. High performance compression spring, XSF, Colour "Violet"

					45%				62%			80%				100%		
Order No	D_h	D_d	L_0	R	S_1	S_{V1}	S_{A1}	F_1	S_2	S_{V2}	S_{A2}	F_2	S_3	S_{V3}	S_{A3}	F_3	S_n	F_n
241.13.32.305	32	16	305	5.2	88.6	25.6	63	461	122.1	59.1	63	635	157.6	114.3	43.3	820	197	1024
241.13.40.051	40	20	51	50.8	11.7	3.4	8.3	594	16.1	7.8	8.3	819	20.8	15.1	5.7	1057	26	1321
241.13.40.064	40	20	64	39.7	15.3	4.4	10.9	607	21.1	10.2	10.9	837	27.2	19.7	7.5	1080	34	1350
241.13.40.076	40	20	76	33.1	18	5.2	12.8	596	24.8	12	12.8	821	32	23.2	8.8	1059	40	1324
241.13.40.089	40	20	89	28.1	21.6	6.2	15.4	607	29.8	14.4	15.4	836	38.4	27.8	10.6	1079	48	1349
241.13.40.102	40	20	102	24.5	24.8	7.2	17.6	606	34.1	16.5	17.6	835	44	31.9	12.1	1078	55	1348
241.13.40.115	40	20	115	21.6	28.4	8.2	20.2	612	39.1	18.9	20.2	844	50.4	36.5	13.9	1089	63	1361
241.13.40.127	40	20	127	19.5	31.5	9.1	22.4	614	43.4	21	22.4	846	56	40.6	15.4	1092	70	1365
241.13.40.139	40	20	139	17.8	34.2	9.9	24.3	609	47.1	22.8	24.3	839	60.8	44.1	16.7	1082	76	1353
241.13.40.152	40	20	152	16.3	37.8	10.9	26.9	616	52.1	25.2	26.9	849	67.2	48.7	18.5	1095	84	1369
241.13.40.178	40	20	178	13.8	44.6	12.9	31.7	615	61.4	29.7	31.7	847	79.2	57.4	21.8	1093	99	1366
241.13.40.203	40	20	203	12.1	50.8	14.7	36.2	615	70.1	33.9	36.2	848	90.4	65.5	24.9	1094	113	1367
241.13.40.254	40	20	254	9.7	63.9	18.5	45.4	620	88	42.6	45.4	854	113.6	82.4	31.2	1102	142	1377
241.13.40.305	40	20	305	8	77	22.2	54.7	616	106	51.3	54.7	848	136.8	99.2	37.6	1094	171	1368
241.13.50.064	50	25	64	80.2	16.6	4.8	11.8	1335	22.9	11.1	11.8	1840	29.6	21.5	8.1	2374	37	2967
241.13.50.076	50	25	76	66.9	20.2	5.8	14.4	1355	27.9	13.5	14.4	1867	36	26.1	9.9	2408	45	3010
241.13.50.089	50	25	89	56.6	23.8	6.9	17	1350	32.9	15.9	17	1860	42.4	30.7	11.7	2400	53	3000
241.13.50.102	50	25	102	40.3	27.9	8.1	19.8	1124	38.4	18.6	19.8	1549	49.6	36	13.6	1999	62	2499
241.13.50.115	50	25	115	43.5	31.5	9.1	22.4	1370	43.4	21	22.4	1888	56	40.6	15.4	2436	70	3045
241.13.50.127	50	25	127	39.3	35.1	10.1	25	1379	48.4	23.4	25	1901	62.4	45.2	17.2	2452	78	3065
241.13.50.139	50	25	139	35.8	38.2	11	27.2	1369	52.7	25.5	27.2	1887	68	49.3	18.7	2434	85	3043
241.13.50.152	50	25	152	32.8	42.3	12.2	30.1	1387	58.3	28.2	30.1	1912	75.2	54.5	20.7	2467	94	3083
241.13.50.178	50	25	178	27.8	49.5	14.3	35.2	1376	68.2	33	35.2	1896	88	63.8	24.2	2446	110	3058
241.13.50.203	50	25	203	24.2	56.7	16.4	40.3	1372	78.1	37.8	40.3	1891	100.8	73.1	27.7	2439	126	3049
241.13.50.254	50	25	254	19.2	71.6	20.7	50.9	1374	98.6	47.7	50.9	1893	127.2	92.2	35	2442	159	3053
241.13.50.305	50	25	305	16	86.4	25	61.4	1382	119	57.6	61.4	1905	153.6	111.4	42.2	2458	192	3072

HIGH PERFORMANCE COMPRESSION SPRING, SF, COLOUR "GREEN", DIN ISO 10243

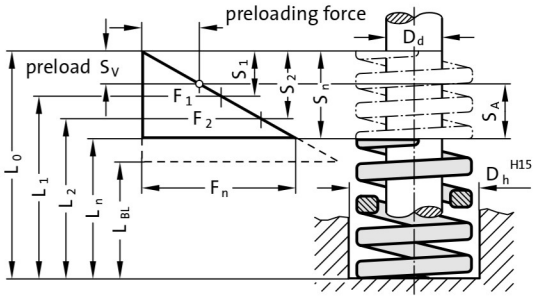


D_h = dia. of guide sleeve
D_d = diameter of guide pin
L_0 = free length of spring
$L_1...L_n$ = length of loaded spring (mm) as related to spring forces $F_1...F_n$
L_{BL} = length of compacted spring (i.e. wire-to-wire)
$F_1...F_n$ = forces (N) as related to length of spring $L_1...L_n$
$S_{V1}...S_{V7}$ = recommend. preload. compression, as relat. to compress. $S_1...S_7$
$S_1...S_n$ = compr. as related to spring forces $F_1...F_n$
R = spring rate (N/mm)
$S_{A1}...S_{A7}$ = working stroke (mm)

241.14. High performance compression spring, SF, Colour "Green", DIN ISO 10243

					45%				62%				80%				100%	
Order No	D_h	D_d	L_0	R	S_1	S_{V1}	S_{A1}	F_1	S_2	S_{V2}	S_{A2}	F_2	S_3	S_{V3}	S_{A3}	F_3	S_n	F_n
241.14.10.025	10	5	25	11	5.6	1.6	4	62	7.8	3.8	4	85	10	7.2	2.8	110	12.5	138
241.14.10.032	10	5	32	8.5	7.2	2.1	5.1	61	9.9	4.8	5.1	84	12.8	9.3	3.5	109	16	136
241.14.10.038	10	5	38	6.8	8.6	2.5	6.1	58	11.8	5.7	6.1	80	15.2	11	4.2	103	19	129
241.14.10.044	10	5	44	6	9.9	2.9	7	59	13.6	6.6	7	82	17.6	12.8	4.8	106	22	132
241.14.10.051	10	5	51	5	11.5	3.3	8.2	57	15.8	7.6	8.2	79	20.4	14.8	5.6	102	25.5	128
241.14.10.064	10	5	64	4.1	14.4	4.2	10.2	59	19.8	9.6	10.2	81	25.6	18.6	7	105	32	131
241.14.10.076	10	5	76	3.6	17.1	4.9	12.2	62	23.6	11.4	12.2	85	30.4	22	8.4	109	38	137
241.14.10.305	10	5	305	0.9	68.6	19.8	48.8	62	94.6	45.8	48.8	85	122	88.4	33.6	110	152.5	137
241.14.13.025	12	6	25	21	5.6	1.6	4	118	7.8	3.8	4	163	10	7.2	2.8	210	12.5	262
241.14.13.032	12	6	32	16.4	7.2	2.1	5.1	118	9.9	4.8	5.1	163	12.8	9.3	3.5	210	16	262
241.14.13.038	12	6	38	13.6	8.6	2.5	6.1	116	11.8	5.7	6.1	160	15.2	11	4.2	207	19	258
241.14.13.044	12	6	44	12.1	9.9	2.9	7	120	13.6	6.6	7	165	17.6	12.8	4.8	213	22	266
241.14.13.051	12	6	51	10.3	11.5	3.3	8.2	118	15.8	7.6	8.2	163	20.4	14.8	5.6	210	25.5	263
241.14.13.064	12	6	64	7.6	14.4	4.2	10.2	109	19.8	9.6	10.2	151	25.6	18.6	7	195	32	243
241.14.13.076	12	6	76	6.3	17.1	4.9	12.2	108	23.6	11.4	12.2	148	30.4	22	8.4	192	38	239
241.14.13.089	12	6	89	5.4	20	5.8	14.2	108	27.6	13.4	14.2	149	35.6	25.8	9.8	192	44.5	240
241.14.13.305	12	6	305	1.6	68.6	19.8	48.8	110	94.6	45.8	48.8	151	122	88.4	33.6	195	152.5	244
241.14.16.025	16	8	25	29	5.6	1.6	4	163	7.8	3.8	4	225	10	7.2	2.8	290	12.5	362
241.14.16.032	16	8	32	22.9	7.2	2.1	5.1	165	9.9	4.8	5.1	227	12.8	9.3	3.5	293	16	366
241.14.16.038	16	8	38	19.3	8.6	2.5	6.1	165	11.8	5.7	6.1	227	15.2	11	4.2	293	19	367
241.14.16.044	16	8	44	17.1	9.9	2.9	7	169	13.6	6.6	7	233	17.6	12.8	4.8	301	22	376
241.14.16.051	16	8	51	14	11.5	3.3	8.2	161	15.8	7.6	8.2	221	20.4	14.8	5.6	286	25.5	357
241.14.16.064	16	8	64	10.7	14.4	4.2	10.2	154	19.8	9.6	10.2	212	25.6	18.6	7	274	32	342
241.14.16.076	16	8	76	9	17.1	4.9	12.2	154	23.6	11.4	12.2	212	30.4	22	8.4	274	38	342
241.14.16.089	16	8	89	7.3	20	5.8	14.2	146	27.6	13.4	14.2	201	35.6	25.8	9.8	260	44.5	325
241.14.16.102	16	8	102	6.8	23	6.6	16.3	156	31.6	15.3	16.3	215	40.8	29.6	11.2	277	51	347
241.14.16.305	16	8	305	2.3	68.6	19.8	48.8	158	94.6	45.8	48.8	217	122	88.4	33.6	281	152.5	351
241.14.20.025	20	10	25	55.8	5.6	1.6	4	314	7.8	3.8	4	432	10	7.2	2.8	558	12.5	698
241.14.20.032	20	10	32	45	7.2	2.1	5.1	324	9.9	4.8	5.1	446	12.8	9.3	3.5	576	16	720
241.14.20.038	20	10	38	36	8.6	2.5	6.1	308	11.8	5.7	6.1	424	15.2	11	4.2	547	19	684
241.14.20.044	20	10	44	30	9.9	2.9	7	297	13.6	6.6	7	409	17.6	12.8	4.8	528	22	660
241.14.20.051	20	10	51	24.5	11.5	3.3	8.2	281	15.8	7.6	8.2	387	20.4	14.8	5.6	500	25.5	625
241.14.20.064	20	10	64	19.2	14.4	4.2	10.2	276	19.8	9.6	10.2	381	25.6	18.6	7	492	32	614
241.14.20.076	20	10	76	16	17.1	4.9	12.2	274	23.6	11.4	12.2	377	30.4	22	8.4	486	38	608
241.14.20.089	20	10	89	14	20	5.8	14.2	280	27.6	13.4	14.2	386	35.6	25.8	9.8	498	44.5	623
241.14.20.102	20	10	102	12	23	6.6	16.3	275	31.6	15.3	16.3	379	40.8	29.6	11.2	490	51	612
241.14.20.115	20	10	115	10.9	25.9	7.5	18.4	282	35.6	17.2	18.4	389	46	33.4	12.6	501	57.5	627
241.14.20.127	20	10	127	9.5	28.6	8.3	20.3	271	39.4	19	20.3	374	50.8	36.8	14	483	63.5	603
241.14.20.139	20	10	139	8.4	31.3	9	22.2	263	43.1	20.8	22.2	362	55.6	40.3	15.3	467	69.5	584
241.14.20.152	20	10	152	7.6	34.2	9.9	24.3	260	47.1	22.8	24.3	358	60.8	44.1	16.7	462	76	578
241.14.20.305	20	10	305	4	68.6	19.8	48.8	274	94.6	45.8	48.8	378	122	88.4	33.6	488	152.5	610
241.14.25.025	25	12	25	105	5.6	1.6	4	591	7.8	3.8	4	814	10	7.2	2.8	1050	12.5	1312
241.14.25.032	25	12	32	80.3	7.2	2.1	5.1	578	9.9	4.8	5.1	797	12.8	9.3	3.5	1028	16	1285
241.14.25.038	25	12	38	62	8.6	2.5	6.1	530	11.8	5.7	6.1	730	15.2	11	4.2	942	19	1178
241.14.25.044	25	12	44	52.9	9.9	2.9	7	524	13.6	6.6	7	722	17.6	12.8	4.8	931	22	1164
241.14.25.051	25	12	51	44	11.5	3.3	8.2	505	15.8	7.6	8.2	696	20.4	14.8	5.6	898	25.5	1122
241.14.25.064	25	12	64	35.2	14.4	4.2	10.2	507	19.8	9.6	10.2	698	25.6	18.6	7	901	32	1126
241.14.25.076	25	12	76	28	17.1	4.9	12.2	479	23.6	11.4	12.2	660	30.4	22	8.4	851	38	1064
241.14.25.089	25	12	89	24	20	5.8	14.2	481	27.6	13.4	14.2	662	35.6	25.8	9.8	854	44.5	1068
241.14.25.102	25	12	102	21.1	23	6.6	16.3	484	31.6	15.3	16.3	667	40.8	29.6	11.2	861	51	1076
241.14.25.115	25	12	115	18.7	25.9	7.5	18.4	484	35.6	17.2	18.4	667	46	33.4	12.6	860	57.5	1075
241.14.25.127	25	12	127	16.7	28.6	8.3	20.3	477	39.4	19	20.3	657	50.8	36.8	14	848	63.5	1060
241.14.25.139	25	12	139	15.3	31.3	9	22.2	479	43.1	20.8	22.2	659	55.6	40.3	15.3	851	69.5	1063
241.14.25.152	25	12	152	14	34.2	9.9	24.3	479	47.1	22.8	24.3	660	60.8	44.1	16.7	851	76	1064
241.14.25.178	25	12	178	12.5	40	11.6	28.5	501	55.2	26.7	28.5	690	71.2	51.6	19.6	890	89	1112
241.14.25.203	25	12	203	10.4	45.7	13.2	32.5	475	62.9	30.4	32.5	654	81.2	58.9	22.3	844	101.5	1056
241.14.25.305	25	12	305	7	68.6	19.8	48.8	480	94.6	45.8	48.8	662	122	88.4	33.6	854	152.5	1068

HIGH PERFORMANCE COMPRESSION SPRING, SF, COLOUR "GREEN", DIN ISO 10243

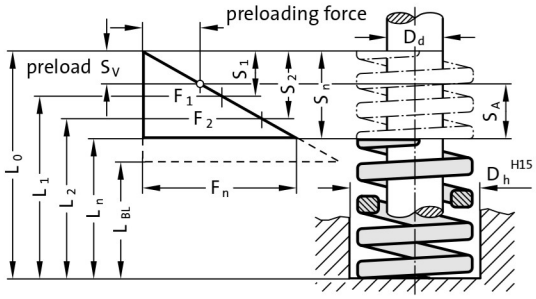


D_h = dia. of guide sleeve
D_d = diameter of guide pin
L_0 = free length of spring
$L_1...L_n$ = length of loaded spring (mm) as related to spring forces $F_1...F_n$
L_{BL} = length of compacted spring (i.e. wire-to-wire)
$F_1...F_n$ = forces (N) as related to length of spring $L_1...L_n$
$S_{V1}...S_{V7}$ = recommend. preload. compression, as relat. to compress. $S_1...S_7$
$S_1...S_n$ = compr. as related to spring forces $F_1...F_n$
R = spring rate (N/mm)
$S_{A1}...S_{A7}$ = working stroke (mm)

241.14. High performance compression spring, SF, Colour "Green", DIN ISO 10243

					45%				62%				80%				100%	
Order No	D_h	D_d	L_0	R	S_1	S_{V1}	S_{A1}	F_1	S_2	S_{V2}	S_{A2}	F_2	S_3	S_{V3}	S_{A3}	F_3	S_n	F_n
241.14.32.038	32	16	38	98	8.6	2.5	6.1	838	11.8	5.7	6.1	1154	15.2	11	4.2	1490	19	1862
241.14.32.044	32	16	44	79.5	9.9	2.9	7	787	13.6	6.6	7	1084	17.6	12.8	4.8	1399	22	1749
241.14.32.051	32	16	51	67	11.5	3.3	8.2	769	15.8	7.6	8.2	1059	20.4	14.8	5.6	1367	25.5	1708
241.14.32.064	32	16	64	53	14.4	4.2	10.2	763	19.8	9.6	10.2	1052	25.6	18.6	7	1357	32	1696
241.14.32.076	32	16	76	44	17.1	4.9	12.2	752	23.6	11.4	12.2	1037	30.4	22	8.4	1338	38	1672
241.14.32.089	32	16	89	37.2	20	5.8	14.2	745	27.6	13.4	14.2	1026	35.6	25.8	9.8	1324	44.5	1655
241.14.32.102	32	16	102	32	23	6.6	16.3	734	31.6	15.3	16.3	1012	40.8	29.6	11.2	1306	51	1632
241.14.32.115	32	16	115	29	25.9	7.5	18.4	750	35.6	17.2	18.4	1034	46	33.4	12.6	1334	57.5	1668
241.14.32.127	32	16	127	25	28.6	8.3	20.3	714	39.4	19	20.3	984	50.8	36.8	14	1270	63.5	1588
241.14.32.139	32	16	139	23	31.3	9	22.2	719	43.1	20.8	22.2	991	55.6	40.3	15.3	1279	69.5	1598
241.14.32.152	32	16	152	21.5	34.2	9.9	24.3	735	47.1	22.8	24.3	1013	60.8	44.1	16.7	1307	76	1634
241.14.32.178	32	16	178	18.2	40	11.6	28.5	729	55.2	26.7	28.5	1004	71.2	51.6	19.6	1296	89	1620
241.14.32.203	32	16	203	15.8	45.7	13.2	32.5	722	62.9	30.4	32.5	994	81.2	58.9	22.3	1283	101.5	1604
241.14.32.254	32	16	254	12.5	57.4	16.6	40.8	717	79	38.2	40.8	988	102	74	28	1275	127.5	1594
241.14.32.305	32	16	305	10.3	68.6	19.8	48.8	707	94.6	45.8	48.8	974	122	88.4	33.6	1257	152.5	1571
241.14.40.051	40	20	51	92	11.5	3.3	8.2	1056	15.8	7.6	8.2	1455	20.4	14.8	5.6	1877	25.5	2346
241.14.40.064	40	20	64	76	14.4	4.2	10.2	1094	19.8	9.6	10.2	1508	25.6	18.6	7	1946	32	2432
241.14.40.076	40	20	76	63	17.1	4.9	12.2	1077	23.6	11.4	12.2	1484	30.4	22	8.4	1915	38	2394
241.14.40.089	40	20	89	51	20	5.8	14.2	1021	27.6	13.4	14.2	1407	35.6	25.8	9.8	1816	44.5	2270
241.14.40.102	40	20	102	45	23	6.6	16.3	1033	31.6	15.3	16.3	1423	40.8	29.6	11.2	1836	51	2295
241.14.40.115	40	20	115	39.6	25.9	7.5	18.4	1025	35.6	17.2	18.4	1412	46	33.4	12.6	1822	57.5	2277
241.14.40.127	40	20	127	36	28.6	8.3	20.3	1029	39.4	19	20.3	1417	50.8	36.8	14	1829	63.5	2286
241.14.40.139	40	20	139	32	31.3	9	22.2	1001	43.1	20.8	22.2	1379	55.6	40.3	15.3	1779	69.5	2224
241.14.40.152	40	20	152	28	34.2	9.9	24.3	958	47.1	22.8	24.3	1319	60.8	44.1	16.7	1702	76	2128
241.14.40.178	40	20	178	25.2	40	11.6	28.5	1009	55.2	26.7	28.5	1391	71.2	51.6	19.6	1794	89	2243
241.14.40.203	40	20	203	21.8	45.7	13.2	32.5	996	62.9	30.4	32.5	1372	81.2	58.9	22.3	1770	101.5	2213
241.14.40.254	40	20	254	17	57.4	16.6	40.8	975	79	38.2	40.8	1344	102	74	28	1734	127.5	2168
241.14.40.305	40	20	305	14.8	68.6	19.8	48.8	1016	94.6	45.8	48.8	1399	122	88.4	33.6	1806	152.5	2257
241.14.50.064	50	25	64	156	14.4	4.2	10.2	2246	19.8	9.6	10.2	3095	25.6	18.6	7	3994	32	4992
241.14.50.076	50	25	76	125	17.1	4.9	12.2	2138	23.6	11.4	12.2	2945	30.4	22	8.4	3800	38	4750
241.14.50.089	50	25	89	109	20	5.8	14.2	2183	27.6	13.4	14.2	3007	35.6	25.8	9.8	3880	44.5	4850
241.14.50.102	50	25	102	94	23	6.6	16.3	2157	31.6	15.3	16.3	2972	40.8	29.6	11.2	3835	51	4794
241.14.50.115	50	25	115	81	25.9	7.5	18.4	2096	35.6	17.2	18.4	2888	46	33.4	12.6	3726	57.5	4658
241.14.50.127	50	25	127	71	28.6	8.3	20.3	2029	39.4	19	20.3	2795	50.8	36.8	14	3607	63.5	4508
241.14.50.139	50	25	139	66.5	31.3	9	22.2	2080	43.1	20.8	22.2	2865	55.6	40.3	15.3	3697	69.5	4622
241.14.50.152	50	25	152	60	34.2	9.9	24.3	2052	47.1	22.8	24.3	2827	60.8	44.1	16.7	3648	76	4560
241.14.50.178	50	25	178	52	40	11.6	28.5	2083	55.2	26.7	28.5	2869	71.2	51.6	19.6	3702	89	4628
241.14.50.203	50	25	203	44	45.7	13.2	32.5	2010	62.9	30.4	32.5	2769	81.2	58.9	22.3	3573	101.5	4466
241.14.50.254	50	25	254	35	57.4	16.6	40.8	2008	79	38.2	40.8	2767	102	74	28	3570	127.5	4462
241.14.50.305	50	25	305	28.5	68.6	19.8	48.8	1956	94.6	45.8	48.8	2695	122	88.4	33.6	3477	152.5	4346
241.14.63.076	63	38	76	189	17.1	4.9	12.2	3232	23.6	11.4	12.2	4453	30.4	22	8.4	5746	38	7182
241.14.63.089	63	38	89	158	20	5.8	14.2	3164	27.6	13.4	14.2	4359	35.6	25.8	9.8	5625	44.5	7031
241.14.63.102	63	38	102	131	23	6.6	16.3	3006	31.6	15.3	16.3	4142	40.8	29.6	11.2	5345	51	6681
241.14.63.115	63	38	115	116	25.9	7.5	18.4	3002	35.6	17.2	18.4	4135	46	33.4	12.6	5336	57.5	6670
241.14.63.127	63	38	127	103	28.6	8.3	20.3	2943	39.4	19	20.3	4055	50.8	36.8	14	5232	63.5	6540
241.14.63.152	63	38	152	84.3	34.2	9.9	24.3	2883	47.1	22.8	24.3	3972	60.8	44.1	16.7	5125	76	6407
241.14.63.178	63	38	178	71.5	40	11.6	28.5	2864	55.2	26.7	28.5	3945	71.2	51.6	19.6	5091	89	6364
241.14.63.203	63	38	203	61.7	45.7	13.2	32.5	2818	62.9	30.4	32.5	3883	81.2	58.9	22.3	5010	101.5	6263
241.14.63.254	63	38	254	47	57.4	16.6	40.8	2697	79	38.2	40.8	3715	102	74	28	4794	127.5	5992
241.14.63.305	63	38	305	38.2	68.6	19.8	48.8	2621	94.6	45.8	48.8	3612	122	88.4	33.6	4660	152.5	5826

HIGH PERFORMANCE COMPRESSION SPRING, MF, COLOUR "BLUE", DIN ISO 10243

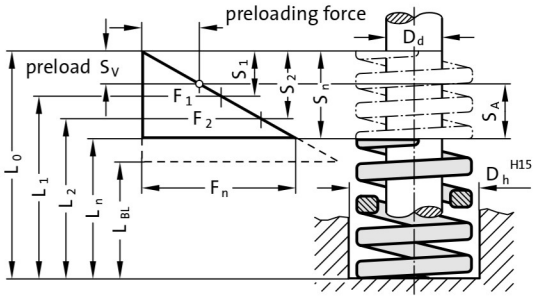


D_h = dia. of guide sleeve
D_d = diameter of guide pin
L_0 = free length of spring
$L_1...L_n$ = length of loaded spring (mm) as related to spring forces $F_1...F_n$
L_{BL} = length of compacted spring (i.e. wire-to-wire)
$F_1...F_n$ = forces (N) as related to length of spring $L_1...L_n$
$S_{V1}...S_{V7}$ = recommend. preload. compression, as relat. to compress. $S_1...S_7$
$S_1...S_n$ = compr. as related to spring forces $F_1...F_n$
R = spring rate (N/mm)
$S_{A1}...S_{A7}$ = working stroke (mm)

241.15. High performance compression spring, MF, Colour "Blue", DIN ISO 10243

					45%				62%				80%					
Order No	D_h	D_d	L_0	R	S_1	S_{V1}	S_{A1}	F_1	S_2	S_{V2}	S_{A2}	F_2	S_3	S_{V3}	S_{A3}	F_3	S_n	F_n
241.15.10.025	10	5	25	16	5.3	1.5	3.8	85	7.3	3.5	3.8	117	9.4	6.8	2.6	151	11.8	189
241.15.10.032	10	5	32	13	6.8	2	4.8	88	9.3	4.5	4.8	121	12	8.7	3.3	156	15	195
241.15.10.038	10	5	38	11.9	8	2.3	5.7	95	11	5.3	5.7	131	14.2	10.3	3.9	169	17.8	212
241.15.10.044	10	5	44	10.3	9.3	2.7	6.6	95	12.8	6.2	6.6	132	16.5	11.9	4.5	170	20.6	212
241.15.10.051	10	5	51	8.9	10.8	3.1	7.6	96	14.8	7.2	7.6	132	19.1	13.9	5.3	170	23.9	213
241.15.10.064	10	5	64	7.5	13.5	3.9	9.6	101	18.6	9	9.6	140	24	17.4	6.6	180	30	225
241.15.10.076	10	5	76	6.2	16	4.6	11.4	99	22.1	10.7	11.4	137	28.5	20.6	7.8	177	35.6	221
241.15.10.305	10	5	305	1.6	64.1	18.5	45.6	103	88.4	42.8	45.6	141	114	82.6	31.4	182	142.5	228
241.15.13.025	12	6	25	30	5.3	1.5	3.8	159	7.3	3.5	3.8	219	9.4	6.8	2.6	283	11.8	354
241.15.13.032	12	6	32	24.8	6.8	2	4.8	167	9.3	4.5	4.8	231	12	8.7	3.3	298	15	372
241.15.13.038	12	6	38	21.4	8	2.3	5.7	171	11	5.3	5.7	236	14.2	10.3	3.9	305	17.8	381
241.15.13.044	12	6	44	18	9.3	2.7	6.6	167	12.8	6.2	6.6	230	16.5	11.9	4.5	297	20.6	371
241.15.13.051	12	6	51	15.5	10.8	3.1	7.6	167	14.8	7.2	7.6	230	19.1	13.9	5.3	296	23.9	370
241.15.13.064	12	6	64	12.1	13.5	3.9	9.6	163	18.6	9	9.6	225	24	17.4	6.6	290	30	363
241.15.13.076	12	6	76	10.2	16	4.6	11.4	163	22.1	10.7	11.4	225	28.5	20.6	7.8	290	35.6	363
241.15.13.089	12	6	89	8.4	18.7	5.4	13.3	157	25.8	12.5	13.3	217	33.3	24.1	9.2	280	41.6	349
241.15.13.305	12	6	305	2.4	64.1	18.5	45.6	154	88.4	42.8	45.6	212	114	82.6	31.4	274	142.5	342
241.15.16.025	16	8	25	49.4	5.3	1.5	3.8	262	7.3	3.5	3.8	361	9.4	6.8	2.6	466	11.8	583
241.15.16.032	16	8	32	38.5	6.8	2	4.8	260	9.3	4.5	4.8	358	12	8.7	3.3	462	15	578
241.15.16.038	16	8	38	33.9	8	2.3	5.7	272	11	5.3	5.7	374	14.2	10.3	3.9	483	17.8	603
241.15.16.044	16	8	44	30	9.3	2.7	6.6	278	12.8	6.2	6.6	383	16.5	11.9	4.5	494	20.6	618
241.15.16.051	16	8	51	26.4	10.8	3.1	7.6	284	14.8	7.2	7.6	391	19.1	13.9	5.3	505	23.9	631
241.15.16.064	16	8	64	20.5	13.5	3.9	9.6	277	18.6	9	9.6	381	24	17.4	6.6	492	30	615
241.15.16.076	16	8	76	17.8	16	4.6	11.4	285	22.1	10.7	11.4	393	28.5	20.6	7.8	507	35.6	634
241.15.16.089	16	8	89	15.2	18.7	5.4	13.3	285	25.8	12.5	13.3	392	33.3	24.1	9.2	506	41.6	632
241.15.16.102	16	8	102	13.5	21.5	6.2	15.3	290	29.6	14.3	15.3	400	38.2	27.7	10.5	516	47.8	645
241.15.16.305	16	8	305	4.3	64.1	18.5	45.6	276	88.4	42.8	45.6	380	114	82.6	31.4	490	142.5	613
241.15.20.025	20	10	25	98	5.3	1.5	3.8	520	7.3	3.5	3.8	717	9.4	6.8	2.6	925	11.8	1156
241.15.20.032	20	10	32	72.6	6.8	2	4.8	490	9.3	4.5	4.8	675	12	8.7	3.3	871	15	1089
241.15.20.038	20	10	38	56	8	2.3	5.7	449	11	5.3	5.7	618	14.2	10.3	3.9	797	17.8	997
241.15.20.044	20	10	44	47.5	9.3	2.7	6.6	440	12.8	6.2	6.6	607	16.5	11.9	4.5	783	20.6	978
241.15.20.051	20	10	51	41.7	10.8	3.1	7.6	448	14.8	7.2	7.6	618	19.1	13.9	5.3	797	23.9	997
241.15.20.064	20	10	64	32.3	13.5	3.9	9.6	436	18.6	9	9.6	601	24	17.4	6.6	775	30	969
241.15.20.076	20	10	76	25.1	16	4.6	11.4	402	22.1	10.7	11.4	554	28.5	20.6	7.8	715	35.6	894
241.15.20.089	20	10	89	22	18.7	5.4	13.3	412	25.8	12.5	13.3	567	33.3	24.1	9.2	732	41.6	915
241.15.20.102	20	10	102	19.8	21.5	6.2	15.3	426	29.6	14.3	15.3	587	38.2	27.7	10.5	757	47.8	946
241.15.20.115	20	10	115	18.1	24.3	7	17.2	439	33.4	16.2	17.2	605	43.1	31.3	11.9	780	53.9	976
241.15.20.127	20	10	127	16.6	26.8	7.7	19	444	36.9	17.8	19	612	47.6	34.5	13.1	790	59.5	988
241.15.20.139	20	10	139	15.1	29.3	8.5	20.8	442	40.4	19.5	20.8	609	52.1	37.8	14.3	786	65.1	983
241.15.20.152	20	10	152	13.2	32.1	9.3	22.8	424	44.2	21.4	22.8	584	57	41.4	15.7	753	71.3	941
241.15.20.305	20	10	305	6.1	64.1	18.5	45.6	391	88.4	42.8	45.6	539	114	82.6	31.4	695	142.5	869
241.15.25.025	25	12	25	157	5.3	1.5	3.8	834	7.3	3.5	3.8	1149	9.4	6.8	2.6	1482	11.8	1853
241.15.25.032	25	12	32	118	6.8	2	4.8	796	9.3	4.5	4.8	1097	12	8.7	3.3	1416	15	1770
241.15.25.038	25	12	38	93	8	2.3	5.7	745	11	5.3	5.7	1026	14.2	10.3	3.9	1324	17.8	1655
241.15.25.044	25	12	44	80.8	9.3	2.7	6.6	749	12.8	6.2	6.6	1032	16.5	11.9	4.5	1332	20.6	1664
241.15.25.051	25	12	51	68.6	10.8	3.1	7.6	738	14.8	7.2	7.6	1017	19.1	13.9	5.3	1312	23.9	1640
241.15.25.064	25	12	64	53	13.5	3.9	9.6	716	18.6	9	9.6	986	24	17.4	6.6	1272	30	1590
241.15.25.076	25	12	76	43.2	16	4.6	11.4	692	22.1	10.7	11.4	954	28.5	20.6	7.8	1230	35.6	1538
241.15.25.089	25	12	89	38.2	18.7	5.4	13.3	715	25.8	12.5	13.3	985	33.3	24.1	9.2	1271	41.6	1589
241.15.25.102	25	12	102	33	21.5	6.2	15.3	710	29.6	14.3	15.3	978	38.2	27.7	10.5	1262	47.8	1577
241.15.25.115	25	12	115	28	24.3	7	17.2	679	33.4	16.2	17.2	936	43.1	31.3	11.9	1207	53.9	1509
241.15.25.127	25	12	127	25.9	26.8	7.7	19	693	36.9	17.8	19	955	47.6	34.5	13.1	1233	59.5	1541
241.15.25.139	25	12	139	23.2	29.3	8.5	20.8	680	40.4	19.5	20.8	936	52.1	37.8	14.3	1208	65.1	1510
241.15.25.152	25	12	152	20.8	32.1	9.3	22.8	667	44.2	21.4	22.8	919	57	41.4	15.7	1186	71.3	1483
241.15.25.178	25	12	178	17.8	37.5	10.8	26.7	668	51.7	25	26.7	920	66.7	48.4	18.3	1188	83.4	1485
241.15.25.203	25	12	203	15.8	42.8	12.4	30.4	676	59	28.5	30.4	932	76.1	55.2	20.9	1202	95.1	1503
241.15.25.305	25	12	305	10.2	64.1	18.5	45.6	654	88.4	42.8	45.6	901	114	82.6	31.4	1163	142.5	1454

HIGH PERFORMANCE COMPRESSION SPRING, MF, COLOUR "BLUE", DIN ISO 10243

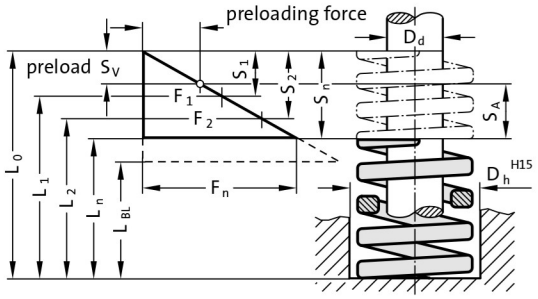


D_h = dia. of guide sleeve
D_d = diameter of guide pin
L_0 = free length of spring
$L_1...L_n$ = length of loaded spring (mm) as related to spring forces $F_1...F_n$
L_{BL} = length of compacted spring (i.e. wire-to-wire)
$F_1...F_n$ = forces (N) as related to length of spring $L_1...L_n$
$S_{V1}...S_{V7}$ = recommend. preload. compression, as relat. to compress. $S_1...S_7$
$S_1...S_n$ = compr. as related to spring forces $F_1...F_n$
R = spring rate (N/mm)
$S_{A1}...S_{A7}$ = working stroke (mm)

241.15. High performance compression spring, MF, Colour "Blue", DIN ISO 10243

					45%				62%				80%					
Order No	D_h	D_d	L_0	R	S_1	S_{V1}	S_{A1}	F_1	S_2	S_{V2}	S_{A2}	F_2	S_3	S_{V3}	S_{A3}	F_3	S_n	F_n
241.15.32.038	32	16	38	185	8	2.3	5.7	1482	11	5.3	5.7	2042	14.2	10.3	3.9	2634	17.8	3293
241.15.32.044	32	16	44	158	9.3	2.7	6.6	1465	12.8	6.2	6.6	2018	16.5	11.9	4.5	2604	20.6	3255
241.15.32.051	32	16	51	134	10.8	3.1	7.6	1441	14.8	7.2	7.6	1986	19.1	13.9	5.3	2562	23.9	3203
241.15.32.064	32	16	64	99	13.5	3.9	9.6	1336	18.6	9	9.6	1841	24	17.4	6.6	2376	30	2970
241.15.32.076	32	16	76	80.5	16	4.6	11.4	1290	22.1	10.7	11.4	1777	28.5	20.6	7.8	2293	35.6	2866
241.15.32.089	32	16	89	69.1	18.7	5.4	13.3	1294	25.8	12.5	13.3	1782	33.3	24.1	9.2	2300	41.6	2875
241.15.32.102	32	16	102	58.8	21.5	6.2	15.3	1265	29.6	14.3	15.3	1743	38.2	27.7	10.5	2249	47.8	2811
241.15.32.115	32	16	115	51.5	24.3	7	17.2	1249	33.4	16.2	17.2	1721	43.1	31.3	11.9	2221	53.9	2776
241.15.32.127	32	16	127	44.8	26.8	7.7	19	1200	36.9	17.8	19	1653	47.6	34.5	13.1	2132	59.5	2666
241.15.32.139	32	16	139	42.3	29.3	8.5	20.8	1239	40.4	19.5	20.8	1707	52.1	37.8	14.3	2203	65.1	2754
241.15.32.152	32	16	152	37.8	32.1	9.3	22.8	1213	44.2	21.4	22.8	1671	57	41.4	15.7	2156	71.3	2695
241.15.32.178	32	16	178	32.5	37.5	10.8	26.7	1220	51.7	25	26.7	1681	66.7	48.4	18.3	2168	83.4	2710
241.15.32.203	32	16	203	28.9	42.8	12.4	30.4	1237	59	28.5	30.4	1704	76.1	55.2	20.9	2199	95.1	2748
241.15.32.254	32	16	254	22.2	53.6	15.5	38.1	1189	73.8	35.7	38.1	1638	95.2	69	26.2	2113	119	2642
241.15.32.305	32	16	305	18.3	64.1	18.5	45.6	1173	88.4	42.8	45.6	1617	114	82.6	31.4	2086	142.5	2608
241.15.40.051	40	20	51	182	10.8	3.1	7.6	1957	14.8	7.2	7.6	2697	19.1	13.9	5.3	3480	23.9	4350
241.15.40.064	40	20	64	140	13.5	3.9	9.6	1890	18.6	9	9.6	2604	24	17.4	6.6	3360	30	4200
241.15.40.076	40	20	76	108	16	4.6	11.4	1730	22.1	10.7	11.4	2384	28.5	20.6	7.8	3076	35.6	3845
241.15.40.089	40	20	89	90.7	18.7	5.4	13.3	1698	25.8	12.5	13.3	2339	33.3	24.1	9.2	3018	41.6	3773
241.15.40.102	40	20	102	81	21.5	6.2	15.3	1742	29.6	14.3	15.3	2401	38.2	27.7	10.5	3097	47.8	3872
241.15.40.115	40	20	115	71.8	24.3	7	17.2	1742	33.4	16.2	17.2	2399	43.1	31.3	11.9	3096	53.9	3870
241.15.40.127	40	20	127	62.7	26.8	7.7	19	1679	36.9	17.8	19	2313	47.6	34.5	13.1	2985	59.5	3731
241.15.40.139	40	20	139	57.5	29.3	8.5	20.8	1684	40.4	19.5	20.8	2321	52.1	37.8	14.3	2995	65.1	3743
241.15.40.152	40	20	152	51.6	32.1	9.3	22.8	1656	44.2	21.4	22.8	2281	57	41.4	15.7	2943	71.3	3679
241.15.40.178	40	20	178	44.1	37.5	10.8	26.7	1655	51.7	25	26.7	2280	66.7	48.4	18.3	2942	83.4	3678
241.15.40.203	40	20	203	36.7	42.8	12.4	30.4	1571	59	28.5	30.4	2164	76.1	55.2	20.9	2792	95.1	3490
241.15.40.254	40	20	254	30.1	53.6	15.5	38.1	1612	73.8	35.7	38.1	2221	95.2	69	26.2	2866	119	3582
241.15.40.305	40	20	305	24.6	64.1	18.5	45.6	1577	88.4	42.8	45.6	2173	114	82.6	31.4	2804	142.5	3506
241.15.50.064	50	25	64	209	13.5	3.9	9.6	2822	18.6	9	9.6	3887	24	17.4	6.6	5016	30	6270
241.15.50.076	50	25	76	168	16	4.6	11.4	2691	22.1	10.7	11.4	3708	28.5	20.6	7.8	4785	35.6	5981
241.15.50.089	50	25	89	140	18.7	5.4	13.3	2621	25.8	12.5	13.3	3611	33.3	24.1	9.2	4659	41.6	5824
241.15.50.102	50	25	102	119	21.5	6.2	15.3	2560	29.6	14.3	15.3	3527	38.2	27.7	10.5	4551	47.8	5688
241.15.50.115	50	25	115	106	24.3	7	17.2	2571	33.4	16.2	17.2	3542	43.1	31.3	11.9	4571	53.9	5713
241.15.50.127	50	25	127	97	26.8	7.7	19	2597	36.9	17.8	19	3578	47.6	34.5	13.1	4617	59.5	5772
241.15.50.139	50	25	139	87	29.3	8.5	20.8	2549	40.4	19.5	20.8	3511	52.1	37.8	14.3	4531	65.1	5664
241.15.50.152	50	25	152	80	32.1	9.3	22.8	2567	44.2	21.4	22.8	3536	57	41.4	15.7	4563	71.3	5704
241.15.50.178	50	25	178	69.5	37.5	10.8	26.7	2608	51.7	25	26.7	3594	66.7	48.4	18.3	4637	83.4	5796
241.15.50.203	50	25	203	59.8	42.8	12.4	30.4	2559	59	28.5	30.4	3526	76.1	55.2	20.9	4550	95.1	5687
241.15.50.229	50	25	229	50.9	48.3	13.9	34.3	2458	66.5	32.2	34.3	3386	85.8	62.2	23.6	4369	107.3	5462
241.15.50.254	50	25	254	46	53.6	15.5	38.1	2463	73.8	35.7	38.1	3394	95.2	69	26.2	4379	119	5474
241.15.50.305	50	25	305	38.6	64.1	18.5	45.6	2475	88.4	42.8	45.6	3410	114	82.6	31.4	4400	142.5	5500
241.15.63.076	63	38	76	320	16	4.6	11.4	5126	22.1	10.7	11.4	7063	28.5	20.6	7.8	9114	35.6	11392
241.15.63.089	63	38	89	260	18.7	5.4	13.3	4867	25.8	12.5	13.3	6706	33.3	24.1	9.2	8653	41.6	10816
241.15.63.102	63	38	102	221	21.5	6.2	15.3	4754	29.6	14.3	15.3	6550	38.2	27.7	10.5	8451	47.8	10564
241.15.63.115	63	38	115	187	24.3	7	17.2	4536	33.4	16.2	17.2	6249	43.1	31.3	11.9	8063	53.9	10079
241.15.63.127	63	38	127	168	26.8	7.7	19	4498	36.9	17.8	19	6198	47.6	34.5	13.1	7997	59.5	9996
241.15.63.152	63	38	152	136	32.1	9.3	22.8	4364	44.2	21.4	22.8	6012	57	41.4	15.7	7757	71.3	9697
241.15.63.178	63	38	178	114	37.5	10.8	26.7	4278	51.7	25	26.7	5895	66.7	48.4	18.3	7606	83.4	9508
241.15.63.203	63	38	203	100	42.8	12.4	30.4	4280	59	28.5	30.4	5896	76.1	55.2	20.9	7608	95.1	9510
241.15.63.229	63	38	229	89.2	48.3	13.9	34.3	4307	66.5	32.2	34.3	5934	85.8	62.2	23.6	7657	107.3	9571
241.15.63.254	63	38	254	78.4	53.6	15.5	38.1	4198	73.8	35.7	38.1	5784	95.2	69	26.2	7464	119	9330
241.15.63.305	63	38	305	64.7	64.1	18.5	45.6	4149	88.4	42.8	45.6	5716	114	82.6	31.4	7376	142.5	9220

HIGH PERFORMANCE COMPRESSION SPRING, LF, COLOUR "RED", DIN ISO 10243

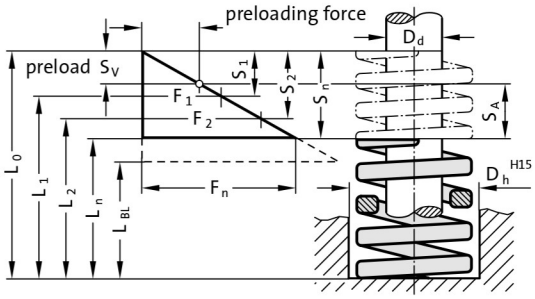


D_h = dia. of guide sleeve
D_d = diameter of guide pin
L_0 = free length of spring
$L_1...L_n$ = length of loaded spring (mm) as related to spring forces $F_1...F_n$
L_{BL} = length of compacted spring (i.e. wire-to-wire)
$F_1...F_n$ = forces (N) as related to length of spring $L_1...L_n$
$S_{V1}...S_{V7}$ = recommend. preload. compression, as relat. to compress. $S_1...S_7$
$S_1...S_n$ = compr. as related to spring forces $F_1...F_n$
R = spring rate (N/mm)
$S_{A1}...S_{A7}$ = working stroke (mm)

241.16. High performance compression spring, LF, Colour "Red", DIN ISO 10243

									62%				80%					
Order No	D_h	D_d	L_0	R	S_1	S_{V1}	S_{A1}	F_1	S_2	S_{V2}	S_{A2}	F_2	S_3	S_{V3}	S_{A3}	F_3	S_n	F_n
241.16.10.025	10	5	25	23	4.2	1.2	3	97	5.8	2.8	3	134	7.5	5.5	2.1	173	9.4	216
241.16.10.032	10	5	32	17.5	5.4	1.6	3.8	94	7.4	3.6	3.8	130	9.6	7	2.6	168	12	210
241.16.10.038	10	5	38	14.8	6.4	1.9	4.6	95	8.9	4.3	4.6	131	11.4	8.3	3.1	169	14.3	212
241.16.10.044	10	5	44	13	7.4	2.1	5.3	97	10.2	5	5.3	133	13.2	9.6	3.6	172	16.5	214
241.16.10.051	10	5	51	11.2	8.6	2.5	6.1	96	11.8	5.7	6.1	133	15.3	11.1	4.2	171	19.1	214
241.16.10.064	10	5	64	9.2	10.8	3.1	7.7	99	14.9	7.2	7.7	137	19.2	13.9	5.3	177	24	221
241.16.10.076	10	5	76	7.5	12.8	3.7	9.1	96	17.7	8.6	9.1	133	22.8	16.5	6.3	171	28.5	214
241.16.10.305	10	5	305	1.9	51.5	14.9	36.6	98	70.9	34.3	36.6	135	91.5	66.4	25.2	174	114.4	217
241.16.13.025	12	6	25	42.1	4.2	1.2	3	178	5.8	2.8	3	245	7.5	5.5	2.1	317	9.4	396
241.16.13.032	12	6	32	33.2	5.4	1.6	3.8	179	7.4	3.6	3.8	247	9.6	7	2.6	319	12	398
241.16.13.038	12	6	38	29.3	6.4	1.9	4.6	189	8.9	4.3	4.6	260	11.4	8.3	3.1	335	14.3	419
241.16.13.044	12	6	44	24.6	7.4	2.1	5.3	183	10.2	5	5.3	252	13.2	9.6	3.6	325	16.5	406
241.16.13.051	12	6	51	19.6	8.6	2.5	6.1	168	11.8	5.7	6.1	232	15.3	11.1	4.2	299	19.1	374
241.16.13.064	12	6	64	15	10.8	3.1	7.7	162	14.9	7.2	7.7	223	19.2	13.9	5.3	288	24	360
241.16.13.076	12	6	76	13.2	12.8	3.7	9.1	169	17.7	8.6	9.1	233	22.8	16.5	6.3	301	28.5	376
241.16.13.089	12	6	89	11.4	15	4.3	10.7	171	20.7	10	10.7	236	26.7	19.4	7.3	305	33.4	381
241.16.13.305	12	6	305	3.2	51.5	14.9	36.6	165	70.9	34.3	36.6	227	91.5	66.4	25.2	293	114.4	366
241.16.16.025	16	8	25	75.7	4.2	1.2	3	320	5.8	2.8	3	441	7.5	5.5	2.1	569	9.4	712
241.16.16.032	16	8	32	60.2	5.4	1.6	3.8	325	7.4	3.6	3.8	448	9.6	7	2.6	578	12	722
241.16.16.038	16	8	38	50.8	6.4	1.9	4.6	327	8.9	4.3	4.6	450	11.4	8.3	3.1	581	14.3	726
241.16.16.044	16	8	44	42.8	7.4	2.1	5.3	318	10.2	5	5.3	438	13.2	9.6	3.6	565	16.5	706
241.16.16.051	16	8	51	37.1	8.6	2.5	6.1	319	11.8	5.7	6.1	439	15.3	11.1	4.2	567	19.1	709
241.16.16.064	16	8	64	30.3	10.8	3.1	7.7	327	14.9	7.2	7.7	451	19.2	13.9	5.3	582	24	727
241.16.16.076	16	8	76	25.7	12.8	3.7	9.1	330	17.7	8.6	9.1	454	22.8	16.5	6.3	586	28.5	732
241.16.16.089	16	8	89	21.7	15	4.3	10.7	326	20.7	10	10.7	449	26.7	19.4	7.3	580	33.4	725
241.16.16.102	16	8	102	18.9	17.2	5	12.3	326	23.7	11.5	12.3	449	30.6	22.2	8.4	579	38.3	724
241.16.16.305	16	8	305	6.3	51.5	14.9	36.6	324	70.9	34.3	36.6	447	91.5	66.4	25.2	577	114.4	721
241.16.20.025	20	10	25	216	4.2	1.2	3	914	5.8	2.8	3	1259	7.5	5.5	2.1	1624	9.4	2030
241.16.20.032	20	10	32	168	5.4	1.6	3.8	907	7.4	3.6	3.8	1250	9.6	7	2.6	1613	12	2016
241.16.20.038	20	10	38	129	6.4	1.9	4.6	830	8.9	4.3	4.6	1144	11.4	8.3	3.1	1476	14.3	1845
241.16.20.044	20	10	44	112	7.4	2.1	5.3	832	10.2	5	5.3	1146	13.2	9.6	3.6	1478	16.5	1848
241.16.20.051	20	10	51	94	8.6	2.5	6.1	808	11.8	5.7	6.1	1113	15.3	11.1	4.2	1436	19.1	1795
241.16.20.064	20	10	64	72.1	10.8	3.1	7.7	779	14.9	7.2	7.7	1073	19.2	13.9	5.3	1384	24	1730
241.16.20.076	20	10	76	59.7	12.8	3.7	9.1	766	17.7	8.6	9.1	1055	22.8	16.5	6.3	1361	28.5	1701
241.16.20.089	20	10	89	50.5	15	4.3	10.7	759	20.7	10	10.7	1046	26.7	19.4	7.3	1349	33.4	1687
241.16.20.102	20	10	102	44.2	17.2	5	12.3	762	23.7	11.5	12.3	1050	30.6	22.2	8.4	1354	38.3	1693
241.16.20.115	20	10	115	38.4	19.4	5.6	13.8	745	26.7	12.9	13.8	1026	34.5	25	9.5	1324	43.1	1655
241.16.20.127	20	10	127	34.1	21.4	6.2	15.2	730	29.5	14.3	15.2	1006	38.1	27.6	10.5	1299	47.6	1623
241.16.20.139	20	10	139	31	23.4	6.8	16.7	727	32.3	15.6	16.7	1001	41.7	30.2	11.5	1292	52.1	1615
241.16.20.152	20	10	152	28.2	25.6	7.4	18.2	723	35.3	17.1	18.2	997	45.6	33.1	12.5	1286	57	1607
241.16.20.305	20	10	305	14	51.5	14.9	36.6	721	70.9	34.3	36.6	993	91.5	66.4	25.2	1281	114.4	1602
241.16.25.025	25	12	25	375	4.2	1.2	3	1586	5.8	2.8	3	2186	7.5	5.5	2.1	2820	9.4	3525
241.16.25.032	25	12	32	297	5.4	1.6	3.8	1604	7.4	3.6	3.8	2210	9.6	7	2.6	2851	12	3564
241.16.25.038	25	12	38	219	6.4	1.9	4.6	1409	8.9	4.3	4.6	1942	11.4	8.3	3.1	2505	14.3	3132
241.16.25.044	25	12	44	187	7.4	2.1	5.3	1388	10.2	5	5.3	1913	13.2	9.6	3.6	2468	16.5	3086
241.16.25.051	25	12	51	156	8.6	2.5	6.1	1341	11.8	5.7	6.1	1847	15.3	11.1	4.2	2384	19.1	2980
241.16.25.064	25	12	64	123	10.8	3.1	7.7	1328	14.9	7.2	7.7	1830	19.2	13.9	5.3	2362	24	2952
241.16.25.076	25	12	76	99	11.9	3.4	8.5	1181	16.4	8	8.5	1627	21.2	15.4	5.8	2099	26.5	2624
241.16.25.089	25	12	89	84	15	4.3	10.7	1263	20.7	10	10.7	1739	26.7	19.4	7.3	2244	33.4	2806
241.16.25.102	25	12	102	73	17.2	5	12.3	1258	23.7	11.5	12.3	1733	30.6	22.2	8.4	2237	38.3	2796
241.16.25.115	25	12	115	65	19.4	5.6	13.8	1261	26.7	12.9	13.8	1737	34.5	25	9.5	2241	43.1	2802
241.16.25.127	25	12	127	57.7	21.4	6.2	15.2	1236	29.5	14.3	15.2	1703	38.1	27.6	10.5	2197	47.6	2747
241.16.25.139	25	12	139	52.7	23.4	6.8	16.7	1236	32.3	15.6	16.7	1702	41.7	30.2	11.5	2197	52.1	2746
241.16.25.152	25	12	152	47.8	25.6	7.4	18.2	1226	35.3	17.1	18.2	1689	45.6	33.1	12.5	2180	57	2725
241.16.25.178	25	12	178	41	30.1	8.7	21.4	1232	41.4	20	21.4	1698	53.4	38.7	14.7	2191	66.8	2739
241.16.25.203	25	12	203	35.8	34.2	9.9	24.4	1226	47.2	22.8	24.4	1689	60.9	44.1	16.7	2180	76.1	2724
241.16.25.305	25	12	305	22.9	51.5	14.9	36.6	1179	70.9	34.3	36.6	1624	91.5	66.4	25.2	2096	114.4	2620

HIGH PERFORMANCE COMPRESSION SPRING, LF, COLOUR "RED", DIN ISO 10243

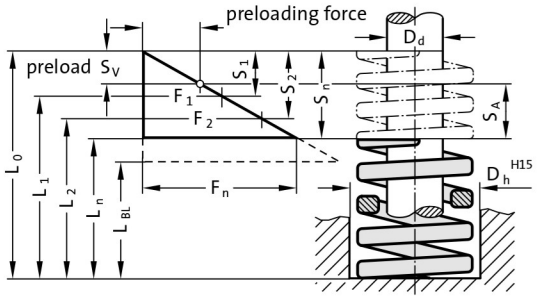


D_h = dia. of guide sleeve
D_d = diameter of guide pin
L_0 = free length of spring
$L_1...L_n$ = length of loaded spring (mm) as related to spring forces $F_1...F_n$
L_{BL} = length of compacted spring (i.e. wire-to-wire)
$F_1...F_n$ = forces (N) as related to length of spring $L_1...L_n$
$S_{V1}...S_{V7}$ = recommend. preload. compression, as relat. to compress. $S_1...S_7$
$S_1...S_n$ = compr. as related to spring forces $F_1...F_n$
R = spring rate (N/mm)
$S_{A1}...S_{A7}$ = working stroke (mm)

241.16. High performance compression spring, LF, Colour "Red", DIN ISO 10243

									62%				80%					
Order No	D_h	D_d	L_0	R	S_1	S_{V1}	S_{A1}	F_1	S_2	S_{V2}	S_{A2}	F_2	S_3	S_{V3}	S_{A3}	F_3	S_n	F_n
241.16.32.038	32	16	38	388	6.4	1.9	4.6	2497	8.9	4.3	4.6	3440	11.4	8.3	3.1	4439	14.3	5548
241.16.32.044	32	16	44	324	7.4	2.1	5.3	2406	10.2	5	5.3	3315	13.2	9.6	3.6	4277	16.5	5346
241.16.32.051	32	16	51	272	8.6	2.5	6.1	2338	11.8	5.7	6.1	3221	15.3	11.1	4.2	4156	19.1	5195
241.16.32.064	32	16	64	212	10.8	3.1	7.7	2290	14.9	7.2	7.7	3155	19.2	13.9	5.3	4070	24	5088
241.16.32.076	32	16	76	172	12.8	3.7	9.1	2206	17.7	8.6	9.1	3039	22.8	16.5	6.3	3922	28.5	4902
241.16.32.089	32	16	89	141	15	4.3	10.7	2119	20.7	10	10.7	2920	26.7	19.4	7.3	3768	33.4	4709
241.16.32.102	32	16	102	122	17.2	5	12.3	2103	23.7	11.5	12.3	2897	30.6	22.2	8.4	3738	38.3	4673
241.16.32.115	32	16	115	107	19.4	5.6	13.8	2075	26.7	12.9	13.8	2859	34.5	25	9.5	3689	43.1	4612
241.16.32.127	32	16	127	93	21.4	6.2	15.2	1992	29.5	14.3	15.2	2745	38.1	27.6	10.5	3541	47.6	4427
241.16.32.139	32	16	139	86	23.4	6.8	16.7	2016	32.3	15.6	16.7	2778	41.7	30.2	11.5	3584	52.1	4481
241.16.32.152	32	16	152	78	25.6	7.4	18.2	2001	35.3	17.1	18.2	2757	45.6	33.1	12.5	3557	57	4446
241.16.32.178	32	16	178	67.2	30.1	8.7	21.4	2020	41.4	20	21.4	2783	53.4	38.7	14.7	3591	66.8	4489
241.16.32.203	32	16	203	59.1	34.2	9.9	24.4	2024	47.2	22.8	24.4	2788	60.9	44.1	16.7	3598	76.1	4498
241.16.32.254	32	16	254	46.6	42.9	12.4	30.5	1998	59.1	28.6	30.5	2753	76.2	55.3	21	3553	95.3	4441
241.16.32.305	32	16	305	38	51.5	14.9	36.6	1956	70.9	34.3	36.6	2695	91.5	66.4	25.2	3478	114.4	4347
241.16.40.051	40	20	51	350	8.6	2.5	6.1	3008	11.8	5.7	6.1	4145	15.3	11.1	4.2	5348	19.1	6685
241.16.40.064	40	20	64	269	10.8	3.1	7.7	2905	14.9	7.2	7.7	4003	19.2	13.9	5.3	5165	24	6456
241.16.40.076	40	20	76	219	12.8	3.7	9.1	2809	17.7	8.6	9.1	3870	22.8	16.5	6.3	4993	28.5	6242
241.16.40.089	40	20	89	190	15	4.3	10.7	2856	20.7	10	10.7	3935	26.7	19.4	7.3	5077	33.4	6346
241.16.40.102	40	20	102	163	17.2	5	12.3	2809	23.7	11.5	12.3	3871	30.6	22.2	8.4	4994	38.3	6243
241.16.40.115	40	20	115	142	19.4	5.6	13.8	2754	26.7	12.9	13.8	3795	34.5	25	9.5	4896	43.1	6120
241.16.40.127	40	20	127	128	21.4	6.2	15.2	2742	29.5	14.3	15.2	3778	38.1	27.6	10.5	4874	47.6	6093
241.16.40.139	40	20	139	115	23.4	6.8	16.7	2696	32.3	15.6	16.7	3715	41.7	30.2	11.5	4793	52.1	5992
241.16.40.152	40	20	152	105	25.6	7.4	18.2	2693	35.3	17.1	18.2	3711	45.6	33.1	12.5	4788	57	5985
241.16.40.178	40	20	178	89	30.1	8.7	21.4	2675	41.4	20	21.4	3686	53.4	38.7	14.7	4756	66.8	5945
241.16.40.203	40	20	203	77	34.2	9.9	24.4	2637	47.2	22.8	24.4	3633	60.9	44.1	16.7	4688	76.1	5860
241.16.40.254	40	20	254	61	42.9	12.4	30.5	2616	59.1	28.6	30.5	3604	76.2	55.3	21	4651	95.3	5813
241.16.40.305	40	20	305	51	51.5	14.9	36.6	2625	70.9	34.3	36.6	3617	91.5	66.4	25.2	4668	114.4	5834
241.16.50.064	50	25	64	413	10.8	3.1	7.7	4460	14.9	7.2	7.7	6145	19.2	13.9	5.3	7930	24	9912
241.16.50.076	50	25	76	339	12.8	3.7	9.1	4348	17.7	8.6	9.1	5990	22.8	16.5	6.3	7729	28.5	9662
241.16.50.089	50	25	89	288	15	4.3	10.7	4329	20.7	10	10.7	5964	26.7	19.4	7.3	7695	33.4	9619
241.16.50.102	50	25	102	245	17.2	5	12.3	4223	23.7	11.5	12.3	5818	30.6	22.2	8.4	7507	38.3	9384
241.16.50.115	50	25	115	215	19.4	5.6	13.8	4170	26.7	12.9	13.8	5745	34.5	25	9.5	7413	43.1	9266
241.16.50.127	50	25	127	192	21.4	6.2	15.2	4113	29.5	14.3	15.2	5666	38.1	27.6	10.5	7311	47.6	9139
241.16.50.139	50	25	139	168	23.4	6.8	16.7	3939	32.3	15.6	16.7	5427	41.7	30.2	11.5	7002	52.1	8753
241.16.50.152	50	25	152	154	25.6	7.4	18.2	3950	35.3	17.1	18.2	5442	45.6	33.1	12.5	7022	57	8778
241.16.50.178	50	25	178	134	30.1	8.7	21.4	4028	41.4	20	21.4	5550	53.4	38.7	14.7	7161	66.8	8951
241.16.50.203	50	25	203	117	34.2	9.9	24.4	4007	47.2	22.8	24.4	5520	60.9	44.1	16.7	7123	76.1	8904
241.16.50.254	50	25	254	89	42.9	12.4	30.5	3817	59.1	28.6	30.5	5259	76.2	55.3	21	6785	95.3	8482
241.16.50.305	50	25	305	73	51.5	14.9	36.6	3758	70.9	34.3	36.6	5178	91.5	66.4	25.2	6681	114.4	8351
241.16.63.076	63	38	76	618	13	3.7	9.2	8009	17.9	8.6	9.2	11035	23	16.7	6.3	14239	28.8	17798
241.16.63.089	63	38	89	515	15.2	4.4	10.8	7833	21	10.1	10.8	10792	27	19.6	7.4	13926	33.8	17407
241.16.63.102	63	38	102	438	17.5	5	12.4	7647	24.1	11.6	12.4	10537	31	22.5	8.5	13596	38.8	16994
241.16.63.115	63	38	115	370	19.7	5.7	14	7293	27.2	13.1	14	10048	35	25.4	9.6	12965	43.8	16206
241.16.63.127	63	38	127	333	21.4	6.2	15.2	7118	29.4	14.2	15.2	9807	38	27.6	10.4	12654	47.5	15818
241.16.63.152	63	38	152	269	25.9	7.5	18.4	6960	35.6	17.2	18.4	9590	46	33.4	12.6	12374	57.5	15468
241.16.63.178	63	38	178	226	29.8	8.6	21.2	6743	41.1	19.9	21.2	9290	53	38.5	14.6	11987	66.3	14984
241.16.63.203	63	38	203	198	34.3	9.9	24.4	6798	47.3	22.9	24.4	9367	61	44.3	16.8	12086	76.3	15107
241.16.63.254	63	38	254	155	42.8	12.4	30.4	6626	58.9	28.5	30.4	9130	76	55.1	20.9	11780	95	14725
241.16.63.305	63	38	305	128	51.2	14.8	36.4	6555	70.6	34.1	36.4	9031	91	66	25	11653	113.8	14566

HIGH PERFORMANCE COMPRESSION SPRING, XLF, COLOUR "YELLOW", DIN ISO 10243

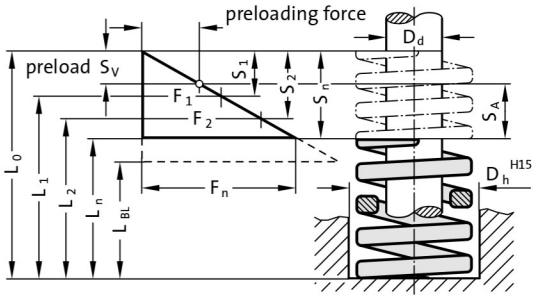


D_h = dia. of guide sleeve
D_d = diameter of guide pin
L_0 = free length of spring
$L_1...L_n$ = length of loaded spring (mm) as related to spring forces $F_1...F_n$
L_{BL} = length of compacted spring (i.e. wire-to-wire)
$F_1...F_n$ = forces (N) as related to length of spring $L_1...L_n$
$S_{V1}...S_{V7}$ = recommend. preload. compression, as relat. to compress. $S_1...S_7$
$S_1...S_n$ = compr. as related to spring forces $F_1...F_n$
R = spring rate (N/mm)
$S_{A1}...S_{A7}$ = working stroke (mm)

241.17. High performance compression spring, XLF, Colour "Yellow", DIN ISO 10243

					45%				62%				80%					
Order No	D_h	D_d	L_0	R	S_1	S_{V1}	S_{A1}	F_1	S_2	S_{V2}	S_{A2}	F_2	S_3	S_{V3}	S_{A3}	F_3	S_n	F_n
241.17.10.025	10	5	25	36.8	3.5	1	2.5	129	4.8	2.3	2.5	178	6.2	4.5	1.7	230	7.8	287
241.17.10.032	10	5	32	27.9	4.5	1.3	3.2	126	6.2	3	3.2	173	8	5.8	2.2	223	10	279
241.17.10.038	10	5	38	23.7	5.4	1.5	3.8	127	7.4	3.6	3.8	175	9.5	6.9	2.6	226	11.9	282
241.17.10.044	10	5	44	19.2	6.2	1.8	4.4	119	8.6	4.1	4.4	164	11	8	3	212	13.8	265
241.17.10.051	10	5	51	16.5	7.2	2.1	5.1	118	9.9	4.8	5.1	163	12.7	9.2	3.5	210	15.9	262
241.17.10.064	10	5	64	13.2	9	2.6	6.4	119	12.4	6	6.4	164	16	11.6	4.4	211	20	264
241.17.10.076	10	5	76	10.9	10.7	3.1	7.6	117	14.8	7.1	7.6	161	19	13.8	5.2	208	23.8	259
241.17.10.305	10	5	305	2.6	42.9	12.4	30.5	112	59.1	28.6	30.5	154	76.3	55.3	21	198	95.4	248
241.17.13.025	12	6	25	58.5	3.5	1	2.5	205	4.8	2.3	2.5	283	6.2	4.5	1.7	365	7.8	456
241.17.13.032	12	6	32	43.9	4.5	1.3	3.2	198	6.2	3	3.2	272	8	5.8	2.2	351	10	439
241.17.13.038	12	6	38	36	5.4	1.5	3.8	193	7.4	3.6	3.8	266	9.5	6.9	2.6	343	11.9	428
241.17.13.044	12	6	44	30.3	6.2	1.8	4.4	188	8.6	4.1	4.4	259	11	8	3	335	13.8	418
241.17.13.051	12	6	51	26.2	7.2	2.1	5.1	187	9.9	4.8	5.1	258	12.7	9.2	3.5	333	15.9	417
241.17.13.064	12	6	64	21.2	9	2.6	6.4	191	12.4	6	6.4	263	16	11.6	4.4	339	20	424
241.17.13.076	12	6	76	17.1	10.7	3.1	7.6	183	14.8	7.1	7.6	252	19	13.8	5.2	326	23.8	407
241.17.13.089	12	6	89	14.5	12.5	3.6	8.9	181	17.2	8.3	8.9	250	22.2	16.1	6.1	322	27.8	403
241.17.13.305	12	6	305	4.3	42.9	12.4	30.5	185	59.1	28.6	30.5	254	76.3	55.3	21	328	95.4	410
241.17.16.025	16	8	25	118	3.5	1	2.5	414	4.8	2.3	2.5	571	6.2	4.5	1.7	736	7.8	920
241.17.16.032	16	8	32	89	4.5	1.3	3.2	400	6.2	3	3.2	552	8	5.8	2.2	712	10	890
241.17.16.038	16	8	38	72.1	5.4	1.5	3.8	386	7.4	3.6	3.8	532	9.5	6.9	2.6	686	11.9	858
241.17.16.044	16	8	44	60.9	6.2	1.8	4.4	378	8.6	4.1	4.4	521	11	8	3	672	13.8	840
241.17.16.051	16	8	51	52.3	7.2	2.1	5.1	374	9.9	4.8	5.1	516	12.7	9.2	3.5	665	15.9	832
241.17.16.064	16	8	64	41.2	9	2.6	6.4	371	12.4	6	6.4	511	16	11.6	4.4	659	20	824
241.17.16.076	16	8	76	34.1	10.7	3.1	7.6	365	14.8	7.1	7.6	503	19	13.8	5.2	649	23.8	812
241.17.16.089	16	8	89	29.5	12.5	3.6	8.9	369	17.2	8.3	8.9	508	22.2	16.1	6.1	656	27.8	820
241.17.16.102	16	8	102	25.6	14.4	4.1	10.2	367	19.8	9.6	10.2	506	25.5	18.5	7	653	31.9	817
241.17.16.305	16	8	305	8.4	42.9	12.4	30.5	361	59.1	28.6	30.5	497	76.3	55.3	21	641	95.4	801
241.17.20.025	20	10	25	293	3.5	1	2.5	1028	4.8	2.3	2.5	1417	6.2	4.5	1.7	1828	7.8	2285
241.17.20.032	20	10	32	224	4.5	1.3	3.2	1008	6.2	3	3.2	1389	8	5.8	2.2	1792	10	2240
241.17.20.038	20	10	38	177	5.4	1.5	3.8	948	7.4	3.6	3.8	1306	9.5	6.9	2.6	1685	11.9	2106
241.17.20.044	20	10	44	149	6.2	1.8	4.4	925	8.6	4.1	4.4	1275	11	8	3	1645	13.8	2056
241.17.20.051	20	10	51	128	7.2	2.1	5.1	916	9.9	4.8	5.1	1262	12.7	9.2	3.5	1628	15.9	2035
241.17.20.064	20	10	64	99	9	2.6	6.4	891	12.4	6	6.4	1228	16	11.6	4.4	1584	20	1980
241.17.20.076	20	10	76	81.7	10.7	3.1	7.6	875	14.8	7.1	7.6	1206	19	13.8	5.2	1556	23.8	1944
241.17.20.089	20	10	89	69.5	12.5	3.6	8.9	869	17.2	8.3	8.9	1198	22.2	16.1	6.1	1546	27.8	1932
241.17.20.102	20	10	102	60.6	14.4	4.1	10.2	870	19.8	9.6	10.2	1199	25.5	18.5	7	1547	31.9	1933
241.17.20.115	20	10	115	53	16.2	4.7	11.5	856	22.3	10.8	11.5	1180	28.7	20.8	7.9	1522	35.9	1903
241.17.20.127	20	10	127	47.5	17.8	5.1	12.7	846	24.6	11.9	12.7	1166	31.7	23	8.7	1505	39.6	1881
241.17.20.139	20	10	139	43	19.5	5.6	13.9	840	26.9	13	13.9	1157	34.7	25.2	9.5	1493	43.4	1866
241.17.20.152	20	10	152	39	21.4	6.2	15.2	834	29.4	14.2	15.2	1149	38	27.6	10.4	1482	47.5	1852
241.17.20.305	20	10	305	20	42.9	12.4	30.5	859	59.1	28.6	30.5	1183	76.3	55.3	21	1526	95.4	1908
241.17.25.025	25	12	25	459	3.5	1	2.5	1611	4.8	2.3	2.5	2220	6.2	4.5	1.7	2864	7.8	3580
241.17.25.032	25	12	32	374	4.5	1.3	3.2	1683	6.2	3	3.2	2319	8	5.8	2.2	2992	10	3740
241.17.25.038	25	12	38	300	5.4	1.5	3.8	1606	7.4	3.6	3.8	2213	9.5	6.9	2.6	2856	11.9	3570
241.17.25.044	25	12	44	244	6.2	1.8	4.4	1515	8.6	4.1	4.4	2088	11	8	3	2694	13.8	3367
241.17.25.051	25	12	51	208	7.2	2.1	5.1	1488	9.9	4.8	5.1	2050	12.7	9.2	3.5	2646	15.9	3307
241.17.25.064	25	12	64	161	9	2.6	6.4	1449	12.4	6	6.4	1996	16	11.6	4.4	2576	20	3220
241.17.25.076	25	12	76	131	10.7	3.1	7.6	1403	14.8	7.1	7.6	1933	19	13.8	5.2	2494	23.8	3118
241.17.25.089	25	12	89	111	12.5	3.6	8.9	1389	17.2	8.3	8.9	1913	22.2	16.1	6.1	2469	27.8	3086
241.17.25.102	25	12	102	96.3	14.4	4.1	10.2	1382	19.8	9.6	10.2	1905	25.5	18.5	7	2458	31.9	3072
241.17.25.115	25	12	115	85.7	16.2	4.7	11.5	1384	22.3	10.8	11.5	1908	28.7	20.8	7.9	2461	35.9	3077
241.17.25.127	25	12	127	76.3	17.8	5.1	12.7	1360	24.6	11.9	12.7	1873	31.7	23	8.7	2417	39.6	3021
241.17.25.139	25	12	139	66	19.5	5.6	13.9	1289	26.9	13	13.9	1776	34.7	25.2	9.5	2292	43.4	2864
241.17.25.152	25	12	152	63.5	21.4	6.2	15.2	1357	29.4	14.2	15.2	1870	38	27.6	10.4	2413	47.5	3016
241.17.25.178	25	12	178	53.9	25	7.2	17.8	1349	34.5	16.7	17.8	1858	44.5	32.2	12.2	2397	55.6	2997
241.17.25.203	25	12	203	47	28.5	8.2	20.3	1341	39.3	19	20.3	1847	50.7	36.8	13.9	2384	63.4	2980
241.17.25.305	25	12	305	30.9	42.9	12.4	30.5	1327	59.1	28.6	30.5	1828	76.3	55.3	21	2358	95.4	2948

HIGH PERFORMANCE COMPRESSION SPRING, XLF, COLOUR "YELLOW", DIN ISO 10243



D_h = dia. of guide sleeve
D_d = diameter of guide pin
L_0 = free length of spring
$L_1...L_n$ = length of loaded spring (mm) as related to spring forces $F_1...F_n$
L_{BL} = length of compacted spring (i.e. wire-to-wire)
$F_1...F_n$ = forces (N) as related to length of spring $L_1...L_n$
$S_{V1}...S_{V7}$ = recommend. preload. compression, as relat. to compress. $S_1...S_7$
$S_1...S_n$ = compr. as related to spring forces $F_1...F_n$
R = spring rate (N/mm)
$S_{A1}...S_{A7}$ = working stroke (mm)

241.17. High performance compression spring, XLF, Colour "Yellow", DIN ISO 10243

					45%				62%				80%					
Order No	D_h	D_d	L_0	R	S_1	S_{V1}	S_{A1}	F_1	S_2	S_{V2}	S_{A2}	F_2	S_3	S_{V3}	S_{A3}	F_3	S_n	F_n
241.17.32.038	32	16	38	480	5.4	1.5	3.8	2570	7.4	3.6	3.8	3541	9.5	6.9	2.6	4570	11.9	5712
241.17.32.044	32	16	44	390	6.2	1.8	4.4	2422	8.6	4.1	4.4	3337	11	8	3	4306	13.8	5382
241.17.32.051	32	16	51	336	7.2	2.1	5.1	2404	9.9	4.8	5.1	3312	12.7	9.2	3.5	4274	15.9	5342
241.17.32.064	32	16	64	269	9	2.6	6.4	2421	12.4	6	6.4	3336	16	11.6	4.4	4304	20	5380
241.17.32.076	32	16	76	219	10.7	3.1	7.6	2345	14.8	7.1	7.6	3232	19	13.8	5.2	4170	23.8	5212
241.17.32.089	32	16	89	180	12.5	3.6	8.9	2252	17.2	8.3	8.9	3102	22.2	16.1	6.1	4003	27.8	5004
241.17.32.102	32	16	102	155	14.4	4.1	10.2	2225	19.8	9.6	10.2	3066	25.5	18.5	7	3956	31.9	4944
241.17.32.115	32	16	115	140	16.2	4.7	11.5	2262	22.3	10.8	11.5	3116	28.7	20.8	7.9	4021	35.9	5026
241.17.32.127	32	16	127	124	17.8	5.1	12.7	2210	24.6	11.9	12.7	3044	31.7	23	8.7	3928	39.6	4910
241.17.32.139	32	16	139	112	19.5	5.6	13.9	2187	26.9	13	13.9	3014	34.7	25.2	9.5	3889	43.4	4861
241.17.32.152	32	16	152	102	21.4	6.2	15.2	2180	29.4	14.2	15.2	3004	38	27.6	10.4	3876	47.5	4845
241.17.32.178	32	16	178	88.2	25	7.2	17.8	2207	34.5	16.7	17.8	3040	44.5	32.2	12.2	3923	55.6	4904
241.17.32.203	32	16	203	76	28.5	8.2	20.3	2168	39.3	19	20.3	2987	50.7	36.8	13.9	3855	63.4	4818
241.17.32.254	32	16	254	60.8	36	10.4	25.6	2189	49.6	24	25.6	3016	64	46.4	17.6	3891	80	4864
241.17.32.305	32	16	305	49	42.9	12.4	30.5	2104	59.1	28.6	30.5	2898	76.3	55.3	21	3740	95.4	4675
241.17.40.051	40	20	51	628	7.2	2.1	5.1	4493	9.9	4.8	5.1	6191	12.7	9.2	3.5	7988	15.9	9985
241.17.40.064	40	20	64	487	9	2.6	6.4	4383	12.4	6	6.4	6039	16	11.6	4.4	7792	20	9740
241.17.40.076	40	20	76	379	10.7	3.1	7.6	4059	14.8	7.1	7.6	5593	19	13.8	5.2	7216	23.8	9020
241.17.40.089	40	20	89	321	12.5	3.6	8.9	4016	17.2	8.3	8.9	5533	22.2	16.1	6.1	7139	27.8	8924
241.17.40.102	40	20	102	281	14.4	4.1	10.2	4034	19.8	9.6	10.2	5558	25.5	18.5	7	7171	31.9	8964
241.17.40.115	40	20	115	245	16.2	4.7	11.5	3958	22.3	10.8	11.5	5453	28.7	20.8	7.9	7036	35.9	8796
241.17.40.127	40	20	127	221	17.8	5.1	12.7	3938	24.6	11.9	12.7	5426	31.7	23	8.7	7001	39.6	8752
241.17.40.139	40	20	139	185	19.5	5.6	13.9	3613	26.9	13	13.9	4978	34.7	25.2	9.5	6423	43.4	8029
241.17.40.152	40	20	152	168	21.4	6.2	15.2	3591	29.4	14.2	15.2	4948	38	27.6	10.4	6384	47.5	7980
241.17.40.178	40	20	178	150	25	7.2	17.8	3753	34.5	16.7	17.8	5171	44.5	32.2	12.2	6672	55.6	8340
241.17.40.203	40	20	203	132	28.5	8.2	20.3	3766	39.3	19	20.3	5189	50.7	36.8	13.9	6695	63.4	8369
241.17.40.254	40	20	254	107	36	10.4	25.6	3852	49.6	24	25.6	5307	64	46.4	17.6	6848	80	8560
241.17.40.305	40	20	305	87.8	43.1	12.5	30.7	3785	59.4	28.7	30.7	5215	76.6	55.6	21.1	6729	95.8	8411
241.17.50.064	50	25	64	709	9	2.6	6.4	6381	12.4	6	6.4	8792	16	11.6	4.4	11344	20	14180
241.17.50.076	50	25	76	572	10.7	3.1	7.6	6126	14.8	7.1	7.6	8440	19	13.8	5.2	10891	23.8	13614
241.17.50.089	50	25	89	475	12.5	3.6	8.9	5942	17.2	8.3	8.9	8187	22.2	16.1	6.1	10564	27.8	13205
241.17.50.102	50	25	102	405	14.4	4.1	10.2	5814	19.8	9.6	10.2	8010	25.5	18.5	7	10336	31.9	12920
241.17.50.115	50	25	115	352	16.2	4.7	11.5	5687	22.3	10.8	11.5	7835	28.7	20.8	7.9	10109	35.9	12637
241.17.50.127	50	25	127	316	17.8	5.1	12.7	5631	24.6	11.9	12.7	7758	31.7	23	8.7	10011	39.6	12514
241.17.50.139	50	25	139	289	19.5	5.6	13.9	5644	26.9	13	13.9	7776	34.7	25.2	9.5	10034	43.4	12543
241.17.50.152	50	25	152	255	21.4	6.2	15.2	5451	29.4	14.2	15.2	7510	38	27.6	10.4	9690	47.5	12112
241.17.50.178	50	25	178	215	25	7.2	17.8	5379	34.5	16.7	17.8	7411	44.5	32.2	12.2	9563	55.6	11954
241.17.50.203	50	25	203	187	28.5	8.2	20.3	5335	39.3	19	20.3	7351	50.7	36.8	13.9	9485	63.4	11856
241.17.50.254	50	25	254	153	36	10.4	25.6	5508	49.6	24	25.6	7589	64	46.4	17.6	9792	80	12240
241.17.50.305	50	25	305	127	42.9	12.4	30.5	5452	59.1	28.6	30.5	7512	76.3	55.3	21	9693	95.4	12116
241.17.63.076	63	38	76	952	10.7	3.1	7.6	10196	14.8	7.1	7.6	14048	19	13.8	5.2	18126	23.8	22658
241.17.63.089	63	38	89	819	12.4	3.6	8.8	10135	17	8.2	8.8	13964	22	16	6	18018	27.5	22522
241.17.63.102	63	38	102	700	14.6	4.2	10.4	10238	20.2	9.8	10.4	14105	26	18.8	7.2	18200	32.5	22750
241.17.63.115	63	38	115	620	16.3	4.7	11.6	10128	22.5	10.9	11.6	13954	29	21.1	8	18005	36.3	22506
241.17.63.127	63	38	127	565	18	5.2	12.8	10170	24.8	12	12.8	14012	32	23.2	8.8	18080	40	22600
241.17.63.152	63	38	152	458	21.4	6.2	15.2	9790	29.4	14.2	15.2	13488	38	27.6	10.4	17404	47.5	21755
241.17.63.178	63	38	178	384	24.8	7.2	17.6	9504	34.1	16.5	17.6	13094	44	31.9	12.1	16896	55	21120
241.17.63.203	63	38	203	337	28.7	8.3	20.4	9675	39.6	19.1	20.4	13330	51	37	14	17200	63.8	21501
241.17.63.254	63	38	254	263	36	10.4	25.6	9468	49.6	24	25.6	13045	64	46.4	17.6	16832	80	21040
241.17.63.305	63	38	305	218	42.8	12.4	30.4	9320	58.9	28.5	30.4	12840	76	55.1	20.9	16568	95	20710