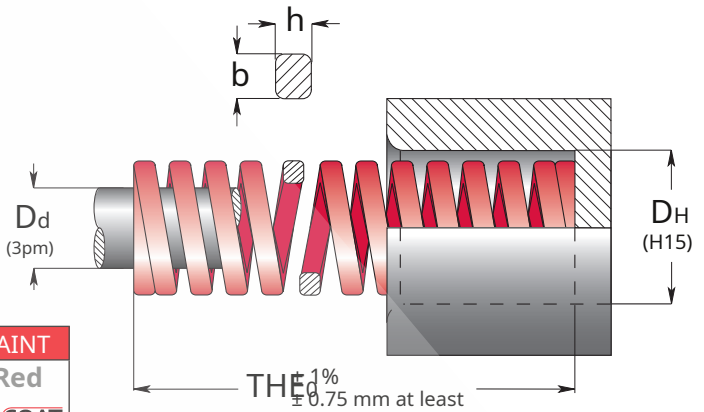
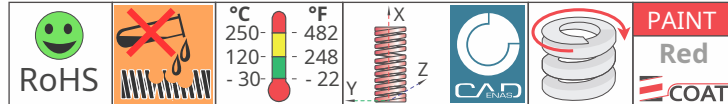









- IT** Heavy load springs
- EN** Strong load springs
- FRO** Federn für hohe Spannung
- FR** Ressorts charge forte
- ES** Muelles carga fuerte
- PT** Molas carga forte









Code	D _H	D _d	THER		TO		B		C		D		AND	
	Hole Diameter	Rod Diameter	Free Length	Spring Rate	 20%THE 0	 25%THE 0	 27.5%THE 0	 30%THE 0	 approx.					
	b x h			± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000	do not use					
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm	Pcs
R 10 - 025	10	5	25	23.0	5.0	115.0	6.3	144.9	6.9	158.7	7.5	172.5	9.2	50
R 10 - 032			32	17.5	6.4	112.0	8.0	140.0	8.8	154.0	9.6	168.0	12.1	50
R 10 - 038			38	14.8	7.6	112.5	9.5	140.6	10.5	155.4	11.4	168.7	13.2	50
R 10 - 044			44	13.0	8.8	114.4	11.0	143.0	12.1	157.3	13.2	171.6	15.1	50
R 10 - 051			51	11.2	10.2	114.2	12.8	143.4	14.0	156.8	15.3	171.4	19.5	25
R 10 - 064			64	9.2	12.8	117.8	16.0	147.2	17.6	161.9	19.2	176.6	21.8	25
R 10 - 076			76	7.5	15.2	114.0	19.0	142.5	20.9	156.8	22.8	171.0	27.9	25
R 10 - 115			115	4.8	23.0	110.4	29.0	139.2	32.0	153.6	34.5	165.6	56.0	10
R 10 - 305			1.9 x 1.5	305	1.9	61.0	115.9	76.3	145.0	83.9	159.4	91.5	173.9	127.0
R 13 - 025	12.5 6:3		25	42.1	5.0	210.5	6.3	265.2	6.9	290.5	7.5	315.8	9.8	50
R 13 - 032			32	33.2	6.4	212.5	8.0	265.6	8.8	292.2	9.6	318.7	13.6	50
R 13 - 038			38	29.3	7.6	222.7	9.5	278.4	10.5	307.7	11.4	334.0	14.6	50
R 13 - 044			44	24.6	8.8	216.5	11.0	270.6	12.1	297.7	13.2	324.7	18.1	25
R 13 - 051			51	19.6	10.2	199.9	12.8	250.9	14.0	274.4	15.3	299.9	22.3	25
R 13 - 064			64	15.0	12.8	192.0	16.0	240.0	17.6	264.0	19.2	288.0	27.3	25
R 13 - 076			76	13.2	15.2	200.6	19.0	250.8	20.9	275.9	22.8	301.0	33.1	25
R 13 - 089			89	11.4	17.8	202.9	22.3	254.2	24.5	279.3	26.7	304.4	38.9	20
R 13 - 102			102	8.4	20.4	171.4	25.5	214.2	28.1	236.0	30.6	257.0	43.8	10
R 13 - 305	2.4 x 1.9	305	3.2	61.0	195.2	76.3	244.2	83.9	268.5	91.5	292.8	140.0	10	
R 16 - 025	16	8	25	75.7	5.0	378.5	6.3	476.9	6.9	522.3	7.5	567.8	8.4	50
R 16 - 032			32	60.2	6.4	385.3	8.0	481.6	8.8	529.8	9.6	577.9	10.5	50
R 16 - 038			38	50.8	7.6	386.1	9.5	482.6	10.5	533.4	11.4	579.1	13.6	25
R 16 - 044			44	42.8	8.8	376.6	11.0	470.8	12.1	517.9	13.2	565.0	15.9	25
R 16 - 051			51	37.1	10.2	378.4	12.8	474.9	14.0	519.4	15.3	567.6	18.9	25
R 16 - 064			64	30.3	12.8	387.8	16.0	484.8	17.6	533.3	19.2	581.8	24.9	25
R 16 - 076			76	25.7	15.2	390.6	19.0	488.3	20.9	537.1	22.8	586.0	29.2	20
R 16 - 089			89	21.7	17.8	386.3	22.3	483.9	24.5	531.7	26.7	579.4	34.5	20
R 16 - 102			102	18.9	20.4	385.6	25.5	482.0	28.1	531.1	30.6	578.3	39.1	20
R 16 - 115	115	15.7	23.0	361.1	28.8	452.2	31.6	496.1	34.5	541.7	44.0	10		
R 16 - 305	3.1 x 2.5	305	6.3	61.0	384.3	76.3	480.7	83.9	528.6	91.5	576.5	104.0	10	
R 20 - 025	20	10	25	216.0	5.0	1080	6.3	1361	6.9	1490	7.5	1620	8.3	50
R 20 - 032			32	168.0	6.4	1075	8.0	1344	8.8	1478	9.6	1613	10.9	50
R 20 - 038			38	129.0	7.6	980	9.5	1226	10.5	1355	11.4	1471	12.5	25
R 20 - 044			44	112.0	8.8	986	11.0	1232	12.1	1355	13.2	1478	15.0	25
R 20 - 051			51	94.0	10.2	959	12.8	1203	14.0	1316	15.3	1438	17.6	25
R 20 - 064			64	72.1	12.8	923	16.0	1154	17.6	1269	19.2	1384	22.6	25
R 20 - 076			76	59.7	15.2	907	19.0	1134	20.9	1248	22.8	1361	27.5	25
R 20 - 089			89	50.5	17.8	899	22.3	1126	24.5	1237	26.7	1348	31.7	20
R 20 - 102			102	44.2	20.4	902	25.5	1127	28.1	1242	30.6	1353	37.5	20
R 20 - 115	115	38.4	23.0	883	28.8	1106	31.6	1213	34.5	1325	42.6	10		
R 20 - 127	127	34.1	25.4	866	31.8	1084	34.9	1190	38.1	1299	45.5	10		
R 20 - 139	139	31.0	27.8	862	34.8	1079	38.2	1184	41.7	1293	50.1	10		
R 20 - 152	152	28.2	30.4	857	38.0	1072	41.8	1179	45.6	1286	55.8	10		
R 20 - 305	4.0 x 3.3	305	14.0	61.0	854	76.3	1068	83.9	1175	91.5	1281	114.0	10	
R 25 - 025	25	12.5	25	375.0	5.0	1875	6.3	2363	6.9	2588	7.5	2813	8.5	50
R 25 - 032			32	297.0	6.4	1901	8.0	2376	8.8	2614	9.6	2851	11.0	25
R 25 - 038			38	219.0	7.6	1664	9.5	2081	10.5	2300	11.4	2497	12.6	25
R 25 - 044			44	187.0	8.8	1646	11.0	2057	12.1	2263	13.2	2468	14.8	25



ISO 10243 Rectangular Wire

SERIES

R

Code	D _H	D _d	THER		TO		B		C		D		AND	
	Hole Diameter	Rod Diameter	Free Length	Spring Rate	 20%THE 0	 25%THE 0	 27.5%THE 0	 30%THE 0	 approx. do not use					
	b x h			± 10%	+ 3,000,000	~ 1,500,000	300 - 500,000	100 - 200,000						
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N	mm	Pcs
R 25 - 051	25	12.5	51	156.0	10.2	1591	12.8	1997	14.0	2184	15.3	2387	17.9	25
R 25 - 064			64	123.0	12.8	1574	16.0	1968	17.6	2165	19.2	2362	23.1	25
R 25 - 076			76	99.0	15.2	1505	19.0	1881	20.9	2069	22.8	2257	26.3	20
R 25 - 089			89	84.0	17.8	1495	22.3	1873	24.5	2058	26.7	2243	30.5	20
R 25 - 102			102	73.0	20.4	1489	25.5	1862	28.1	2051	30.6	2234	37.3	20
R 25 - 115			115	65.0	23.0	1495	28.8	1872	31.6	2054	34.5	2243	41.9	10
R 25 - 127			127	57.7	25.4	1466	31.8	1835	34.9	2014	38.1	2198	46.2	10
R 25 - 139			139	52.7	27.8	1465	34.8	1834	38.2	2013	41.7	2198	49.3	10
R 25 - 152			152	47.8	30.4	1453	38.0	1816	41.8	1998	45.6	2180	55.7	10
R 25 - 178			178	41.0	35.6	1460	44.5	1825	49.0	2009	53.4	2189	65.1	10
R 25 - 203	5.5 x 4.2		203	35.8	40.6	1453	50.8	1819	55.8	1998	60.9	2180	74.5	10
R 25 - 305			305	22.9	61.0	1397	76.3	1747	83.9	1921	91.5	2095	110.0	5
R 32 - 038	32	16	38	388.0	7.6	2949	9.5	3686	10.5	4074	11.4	4423	12.5	20
R 32 - 044			44	324.0	8.8	2851	11.0	3564	12.1	3920	13.2	4277	14.9	20
R 32 - 051			51	272.0	10.2	2774	12.8	3482	14.0	3808	15.3	4162	17.8	20
R 32 - 064			64	212.0	12.8	2714	16.0	3392	17.6	3731	19.2	4070	22.4	20
R 32 - 076			76	172.0	15.2	2614	19.0	3268	20.9	3595	22.8	3922	26.1	20
R 32 - 089			89	141.0	17.8	2510	22.3	3144	24.5	3455	26.7	3765	30.8	10
R 32 - 102			102	122.0	20.4	2489	25.5	3111	28.1	3428	30.6	3733	36.8	10
R 32 - 115			115	107.0	23.0	2461	28.8	3082	31.6	3381	34.5	3692	41.4	10
R 32 - 127			127	93.0	25.4	2362	31.8	2957	34.9	3246	38.1	3543	44.4	10
R 32 - 139			139	86.0	27.8	2391	34.8	2993	38.2	3285	41.7	3586	48.5	10
R 32 - 152	7.1 x 5.4		152	78.0	30.4	2371	38.0	2964	41.8	3260	45.6	3557	54.8	10
R 32 - 178			178	67.2	35.6	2392	44.5	2990	49.0	3293	53.4	3588	63.6	5
R 32 - 203			203	59.1	40.6	2399	50.8	3002	55.8	3298	60.9	3599	72.5	5
R 32 - 254			254	46.4	50.8	2357	63.5	2946	69.9	3243	76.2	3536	92.8	5
R 32 - 305			305	38.0	61.0	2318	76.3	2899	83.9	3188	91.5	3477	112.0	5
R 40 - 051	40	20	51	350.0	10.2	3570	12.8	4480	14.0	4900	15.3	5355	17.0	20
R 40 - 064			64	269.0	12.8	3443	16.0	4304	17.6	4734	19.2	5165	21.9	10
R 40 - 076			76	219.0	15.2	3329	19.0	4161	20.9	4577	22.8	4993	26.7	10
R 40 - 089			89	190.0	17.8	3382	22.3	4237	24.5	4655	26.7	5073	31.3	10
R 40 - 102			102	163.0	20.4	3325	25.5	4157	28.1	4580	30.6	4988	37.1	10
R 40 - 115			115	142.0	23.0	3266	28.8	4090	31.6	4487	34.5	4899	41.0	10
R 40 - 127			127	128.0	25.4	3251	31.8	4070	34.9	4467	38.1	4877	46.5	5
R 40 - 139			139	115.0	27.8	3197	34.8	4002	38.2	4393	41.7	4796	53.1	5
R 40 - 152			152	105.0	30.4	3192	38.0	3990	41.8	4389	45.6	4788	56.1	5
R 40 - 178			178	89.0	35.6	3168	44.5	3961	49.0	4361	53.4	4753	67.4	5
R 40 - 203	8.4 x 6.2		203	77.0	40.6	3126	50.8	3912	55.8	4297	60.9	4689	76.2	5
R 40 - 254			254	61.0	50.8	3099	63.5	3874	69.9	4264	76.2	4648	96.2	2
R 40 - 305			305	51.0	61.0	3111	76.3	3891	83.9	4279	91.5	4667	115.0	2
R 50 - 064	50	25	64	413.0	12.8	5286	16.0	6608	17.6	7269	19.2	7930	22.4	5
R 50 - 076			76	339.0	15.2	5153	19.0	6441	20.9	7085	22.8	7729	26.5	5
R 50 - 089			89	288.0	17.8	5126	22.3	6422	24.5	7056	26.7	7690	31.5	5
R 50 - 102			102	245.0	20.4	4998	25.5	6248	28.1	6885	30.6	7497	37.6	5
R 50 - 115			115	215.0	23.0	4945	28.8	6192	31.6	6794	34.5	7418	42.7	5
R 50 - 127			127	192.0	25.4	4877	31.8	6106	34.9	6701	38.1	7315	47.5	5
R 50 - 139			139	168.0	27.8	4670	34.8	5846	38.2	6418	41.7	7006	51.8	5
R 50 - 152			152	154.0	30.4	4682	38.0	5852	41.8	6437	45.6	7022	57.8	2
R 50 - 178			178	134.0	35.6	4770	44.5	5963	49.0	6566	53.4	7156	68.5	2
R 50 - 203			203	117.0	40.6	4750	50.8	5944	55.8	6529	60.9	7125	77.6	2
R 50 - 254	11.1 x 7.6		254	89.0	50.8	4521	63.5	5652	69.9	6221	76.2	6782	97.9	2
R 50 - 305			305	73.0	61.0	4453	76.3	5570	83.9	6125	91.5	6680	121.0	2
R 63 - 076	63	38	76	618.0	15.2	9394	19.0	11742	20.9	12916	22.8	14090	24.7	5
R 63 - 089			89	515.0	17.8	9167	22.3	11485	24.5	12618	26.7	13751	30.0	5
R 63 - 102			102	438.0	20.4	8935	25.5	11169	28.1	12308	30.6	13403	35.1	5
R 63 - 115			115	370.0	23.0	8510	28.8	10656	31.6	11692	34.5	12765	37.5	5
R 63 - 127			127	333.0	25.4	8458	31.8	10589	34.9	11622	38.1	12687	45.9	2
R 63 - 139			139	298.0	27.8	8294	34.75	10368	38.2	11404	41.7	12441	50.0	2
R 63 - 152			152	269.0	30.4	8178	38.0	10222	41.8	11244	45.6	12266	56.5	2
R 63 - 178			178	226.0	35.6	8046	44.5	10057	49.0	11074	53.4	12068	66.8	2
R 63 - 203			203	198.0	40.6	8039	50.8	10058	55.8	11048	60.9	12058	78.8	2
R 63 - 254			254	155.0	50.8	7874	63.5	9843	69.9	10835	76.2	11811	102.0	2
R 63 - 305	11.6 x 12.3		305	128.0	61.0	7808	76.3	9766	83.9	10739	91.5	11712	122.0	2
R 63 - 315			315	133.0	63.0	8379	78.8	10473.8	86.6	11521.1	94.5	12568.5	108.0	2
R 63 - 350			350	115.0	70.0	8050	87.5	10062.5	96.3	11068.8	105.0	12075.0	110.0	2
R 63 - 400	400	98.0	80.0	7840	100.0	9800.0	110.0	10780.0	120.0	11760.0	125.0	2		

* no ISO 10243

* new sizes: no ISO 10243

Estimated life 100,000 cycles

How to order: R 50 - 152 (Series) [DH] - [TH]E0 1 N = 0.1 daN = 0.102 kgf Load (N) = R (N/mm) x Deflection (mm)

Special Springs 25-024