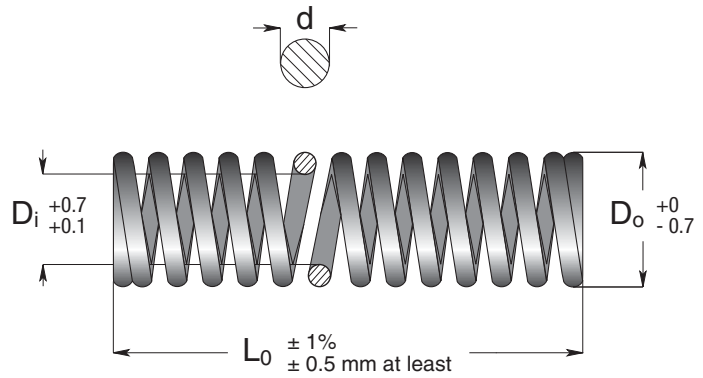
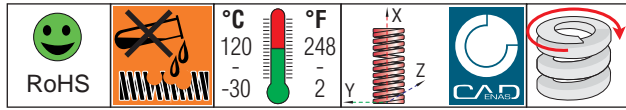


EN Non painted with anti-rust lubricant

ES Muelles no pintados con lubricación antióxido

FR Ressorts non peints avec huilage antirouille



Do spring outside diameter.
diámetro externo del muelle.
diamètre extérieur du ressort.

Di spring inside diameter.
diámetro interior del muelle.
diamètre intérieur du ressort.

d wire diameter.
diámetro del hilo.
diamètre du fil.

L₀ spring free length.
longitud libre del muelle.
longueur libre du ressort.

R spring rate, load (N) required for 1 mm deflection.
carga (N) necesaria para desviar el muelle de 1 milímetro.
charge (N) exigée pour comprimer le ressort 1mm.

A advised working deflection for long spring life.
deflexión aconsejada para una larga duración del muelle.
course conseillée pour une longue durée du ressort.

B advised working deflection for medium spring life.
deflexión aconsejada para una media duración del muelle.
course conseillée pour durée moyenne du ressort.

C maximum operating deflection.
deflexión máxima permitida.
course maximale pour le fonctionnement.

Round Wire Metric

Code	D _o D _i		L ₀	R	A		B		C		D			
	Outside Diameter	Inside Diameter			Free Length	Spring Constant	16% L ₀		24% L ₀		38% L ₀		32% L ₀	
	d						± 10%		~ 1.500.000		300 - 500.000		100 - 200.000	
	mm	mm	mm	N/mm	mm	N	mm	N	mm	N	mm	N		
L 3 - 010	3	2	10	2.94	1.6	4.4	2.4	6.62	2.8	6.9	3.2	8.8		
L 3 - 015			15	1.96	2.4		3.6		4.2		4.8			
L 3 - 020			20	0.98	3.2		4.8		5.6		6.4			
L 3 - 025			25	0.98	4		6		7.0		8			
L 4 - 010	4	2,6	10	4.9	1.6	7.8	2.4	11.6	2.8	14.5	3.2	15.7		
L 4 - 015			15	2.94	2.4		3.6		4.2		4.8			
L 4 - 020			20	2.94	3.2		4.8		5.6		6.4			
L 4 - 025			25	1.96	4		6		7.0		8			
L 4 - 030			30	1.96	4.8		7.2		8.4		9.6			
L 6 - 015	6	4	15	7.85	2.4	17.7	3.6	26.5	4.2	32.4	4.8	35.5		
L 6 - 020			20	5.88	3.2		4.8		5.6		6.4			
L 6 - 025			25	4.9	4		6		7.0		8			
L 6 - 030			30	3.92	4.8		7.2		8.4		9.6			
L 6 - 035			35	2.94	5.6		8.4		9.8		11.2			

Code	D _o D _i		L ₀ Free Length	R Spring Constant ± 10%	A 16% L ₀ + 3.000.000	B 24% L ₀ ~ 1.500.000	C 38% L ₀ 300 - 500.000	D 32% L ₀ 100 - 200.000	
	Outside Diameter	Inside Diameter							
	d								
	mm	mm	mm	N/mm	mm	N	mm	N	
L 8 - 015	8	5,4	15	12.75	2.4	31.4	47.1	55.6	62.8
L 8 - 020			20	9.81	3.2				
L 8 - 025			25	7.85	4				
L 8 - 030			30	6.86	4.8				
L 8 - 035			35	5.88	5.6				
L 8 - 040			40	4.9	6.4				
L 10 - 025	10	6,5	25	12.75	4	49	73.6	85.8	98
L 10 - 030			30	9.81	4.8				
L 10 - 035			35	8.83	5.6				
L 10 - 040			40	7.85	6.4				
L 10 - 045			45	6.86	7.2				
L 10 - 050			50	5.88	8				
L 12 - 025	12	8	25	17.65	4	70.6	106.9	124.1	141.2
L 12 - 030			30	14.71	4.8				
L 12 - 035			35	12.75	5.6				
L 12 - 040			40	10.79	6.4				
L 12 - 045			45	9.81	7.2				
L 12 - 050			50	8.83	8				
L 12 - 055			55	7.85	8.8				
L 12 - 060			60	7.85	9.6				
L 14 - 025	14	9,3	25	24.52	4	96.1	144.2	167.7	192.2
L 14 - 030			30	19.61	4.8				
L 14 - 035			35	17.65	5.6				
L 14 - 040			40	14.71	6.4				
L 14 - 045			45	13.73	7.2				
L 14 - 050			50	11.77	8				
L 14 - 055			55	10.79	8.8				
L 14 - 060			60	9.81	9.6				
L 14 - 065			65	8.83	10.4				
L 14 - 070			70	8.83	11.2				
L 16 - 025	16	10,7	25	31.38	4	125.5	188.3	219.8	251.1
L 16 - 030			30	26.48	4.8				
L 16 - 035			35	22.56	5.6				
L 16 - 040			40	19.61	6.4				
L 16 - 045			45	17.65	7.2				
L 16 - 050			50	15.69	8				
L 16 - 055			55	14.71	8.8				
L 16 - 060			60	12.75	9.6				
L 16 - 065			65	11.77	10.4				
L 16 - 070			70	10.79	11.2				
L 16 - 075			75	10.79	12				
L 16 - 080			80	9.81	12.8				
L 18 - 025	18	12	25	40.21	4	158.9	238.3	280.4	317.7
L 18 - 030			30	33.34	4.8				
L 18 - 035			35	28.44	5.6				
L 18 - 040			40	24.52	6.4				
L 18 - 045			45	22.56	7.2				
L 18 - 050			50	19.61	8				
L 18 - 055			55	17.65	8.8				
L 18 - 060			60	16.67	9.6				
L 18 - 065			65	15.69	10.4				
L 18 - 070			70	14.71	11.2				
L 18 - 075			75	13.73	12				
L 18 - 080			80	12.75	12.8				
L 18 - 090			90	10.79	14.4				
L 20 - 025			20	13,5	25				
L 20 - 030	30	41.19			4.8				
L 20 - 035	35	35.3			5.6				
L 20 - 040	40	30.4			6.4				
L 20 - 045	45	27.46			7.2				
L 20 - 050	50	24.52			8				
L 20 - 055	55	22.56			8.8				
L 20 - 060	60	20.59			9.6				
L 20 - 065	65	18.63			10.4				
L 20 - 070	70	17.65			11.2				
L 20 - 075	75	16.67			12				
L 20 - 080	80	15.69			12.8				
L 20 - 090	90	13.73			14.4				
L 20 - 100	100	12.75			16				

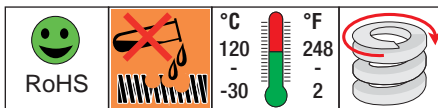
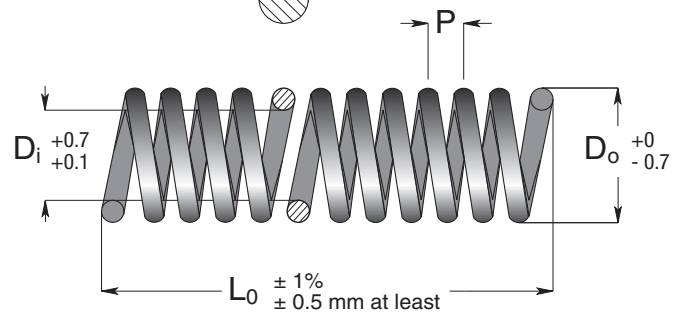
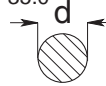
Code	D _o	D _i	L ₀	R	A	B	C	D
	Outside Diameter	Inside Diameter	Free Length	Spring Constant	16% L ₀	24% L ₀	38% L ₀	32% L ₀
	d			± 10%	+ 3.000.000	~ 1.500.000	300 - 500.000	100 - 200.000
	mm	mm	mm	N/mm	mm	mm	mm	mm
					N	N	N	N
L 22 - 025	22	14,7	25	59.82	4	6	7.0	8
L 22 - 030			30	49.03	4.8	7.2	8.4	9.4
L 22 - 035			35	42.17	5.6	8.4	9.8	11.2
L 22 - 040			40	37.27	6.4	9.6	11.2	12.8
L 22 - 045			45	33.34	7.2	10.8	12.6	14.4
L 22 - 050			50	29.42	8	12	14.0	16
L 22 - 055			55	27.46	8.8	13.2	15.4	17.6
L 22 - 060			60	24.52	9.6	14.4	16.8	19.2
L 22 - 065			65	22.56	10.4	15.6	18.2	20.8
L 22 - 070			70	21.57	11.2	16.8	19.6	22.4
L 22 - 075	3,4		75	19.61	12	18	21.0	24
L 22 - 080			80	18.63	12.8	19.2	22.4	25.6
L 22 - 090			90	16.67	14.4	21.6	25.2	28.8
L 22 - 100			100	14.71	16	24	28.0	32
L 25 - 025	25	17	25	76.49	4	6	7.0	8
L 25 - 030			30	63.74	4.8	7.2	8.4	9.6
L 25 - 035			35	54.92	5.6	8.4	9.8	11.2
L 25 - 040			40	48.05	6.4	9.6	11.2	12.8
L 25 - 045			45	42.17	7.2	10.8	12.6	14.4
L 25 - 050			50	38.25	8	12	14.0	16
L 25 - 055			55	35.3	8.8	13.2	15.4	17.6
L 25 - 060			60	32.36	9.6	14.4	16.8	19.2
L 25 - 065			65	29.42	10.4	15.6	18.2	20.8
L 25 - 070			70	27.46	11.2	16.8	19.6	22.4
L 25 - 075	3,8		75	25.5	12	18	21.0	24
L 25 - 080			80	23.54	12.8	19.2	22.4	25.6
L 25 - 090			90	21.57	14.4	21.6	25.2	28.8
L 25 - 100			100	19.61	16	24	28.0	32
L 30 - 050	30	20	50	51.94	8	12	14.0	16
L 30 - 060			60	44.1	9.6	14.4	16.8	19.2
L 30 - 070			70	37.24	11.2	16.8	19.6	22.4
L 30 - 080			80	32.34	12.8	19.2	22.4	25.6
L 30 - 090			90	28.42	14.4	21.6	25.2	28.8
L 30 - 100			100	25.48	16	24	28.0	32
L 30 - 125	4,5		125	20.58	20	30	35.0	40

Round Wire Metric

EN Long size open ends

ES Piezas desmochadas con terminales abiertos

FR Ressorts avec longueur ébauché



Code	D _o	D _i	d	L ₀	P
	Outside Diameter	Inside Diameter	Wire Diameter	Free Length	Pitch
	mm	mm	mm	mm	mm
L 03 - 300	3	2.0	0.4	300	1.04
L 04 - 300	4	2.6	0.6	300	1.50
L 06 - 300	6	4.0	0.9	300	2.00
L 08 - 300	8	5.4	1.2	300	2.80
L 10 - 300	10	6.5	1.5	300	3.50
L 12 - 300	12	8.0	1.8	300	4.30
L 14 - 300	14	9.3	2.2	300	4.80
L 16 - 300	16	10.7	2.4	300	5.50
L 18 - 300	18	12.0	2.8	300	5.30
L 20 - 300	20	13.5	3.0	300	6.80
L 22 - 300	22	14.7	3.4	300	6.70
L 25 - 300	25	17.0	3.8	300	8.20