

CONTINUOUS LENGTH EXTENSION SPRINGS

Guide to using tables

Free Length

length of the spring in the unloaded position, measured from inside the end loops.

Initial Tension

the force that keeps the coils of an extension spring closed and which must be overcome before the coils start to open.

Lee Stock Number

Please add suffix **M** for Music Wire or **S** for 302 Stainless Steel when ordering.

Outside Diameter

arranged through the pages in ascending order of size.

Wire Diameter

in ascending order of size, within each group of outside diameters.

Number of Coils

total coils in each spring.

Price Group

reference to the price list

Stiffness

change in load or force per inch of extension at the final cut length

CONTINUOUS LENGTH EXTENSION SPRINGS

● Music Wire (Lightly Oiled), or Stainless Steel (Natural)

LEE STOCK NUMBER	OUTSIDE DIAMETER		WIRE DIAMETER		FREE LENGTH			INITIAL TENSION		APPROX NUMBER OF COILS PER		STIFFNESS K	PRICE GROUP					
	MM	IN	MM	IN	MM	IN	N	LB	MM	IN	M		S	Y				
LEC 0390 12	9.53	0.375	0.99	0.039	304.80	12	3.56	0.80	1.0	25.6	91.5	Y	Z					
LEC 0390 24					609.60	24									BB	BC	BE	
LEC 0390 36					914.40	36												BC
LEC 0410 12	1.04	0.041	304.80	12	4.00	0.90	1.0	24.3	113.8	Y	Z	BB	BC					
LEC 0410 24					609.60	24										BB	BC	BE
LEC 0410 36					914.40	36												
LEC 0450 12	1.14	0.045	304.80	12	5.34	1.20	0.9	22.2	171.2	Y	Z	BB	BC					
LEC 0450 24					609.60	24										BB	BC	BE
LEC 0450 36					914.40	36												
LEC 0490 12	1.24	0.049	304.80	12	6.67	1.50	0.8	20.4	249.6	Y	Z	BB	BC					
LEC 0490 24					609.60	24										BB	BC	BE
LEC 0490 36					914.40	36												
LEC 0520 12	1.32	0.052	304.80	12	7.79	1.75	0.8	19.2	325.5	Y	Z	BB	BC					
LEC 0520 24					609.60	24										BB	BC	BE
LEC 0520 36					914.40	36												
LEC 0550 12	1.40	0.055	304.80	12	8.90	2.00	0.7	18.1	418.9	Y	Z	BB	BC					
LEC 0550 24					609.60	24										BB	BC	BE
LEC 0550 36					914.40	36												
LEC 0580 12	1.47	0.058	304.80	12	11.12	2.50	0.7	17.2	532.9	Y	Z	BB	BC					
LEC 0580 24					609.60	24										BB	BC	BE
LEC 0580 36					914.40	36												
LEC 034E 12	12.70	0.500	0.86	0.034	304.80	12	1.33	0.30	1.2	29.4	19.8	Z	BB					
LEC 034E 24					609.60	24							BD					
LEC 034E 36					914.40	36							BD					

ADDITIONAL INFORMATION

- 1 Continuous length extension springs are available in three lengths: 12, 24 & 36 inch.
- 2 Continuous length extension springs are designed to be cut to the length required by the user.
- 3 All continuous length springs are right hand wound.
- 4 As with extension springs, in order to achieve long life and service, good design suggests that extension springs are not extended beyond 80% of their deflective capability.
- 5 Material specification, finishes and tolerances are detailed on the specification page 163.
- 6 Please note that the stiffness listed in the following extension spring tables relate only to music wire. When choosing stainless steel multiply the factors by 0.833.
- 7 To determine the spring rate per mm of extension at the final cut length use the following formula:

$$\text{Rate} = \frac{K}{N} \quad \begin{array}{l} K = \text{Stiffness} \\ N = \text{Number of coils per mm} \times \text{length in mm} \end{array}$$
- 8 To determine load at an extended length multiply deflection by the spring rate.

VARIOUS LOOPS OR HOOKS CAN BE FORMED ON THE ENDS

Step 1



Fold Spring 180° at desired length and cut. Cut shorter than needed by one-half the coil body diameter.

Step 2



Across from cut end, bend last coil up at 45° angle. To form double loop, bend last two coils up 45°. Do not use heat!

Step 3



Twist cut end of loop into center of coil body. This may require pliers. You may have to twist past center to allow the loop to flex back.

Step 4



Cut end of newly formed loop to obtain any gap needed for mounting.