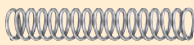




## Spring Information



### SPRING TYPES

#### Compression

Shorten under load to absorb impact, apply pressure to surfaces, or protect against the effects of shock. See pages 2159 and 2160.



#### Disc

Convex discs generate high force within a very short length. Discs can be used singly or stacked in numerous combinations to achieve desired load and travel with minimal movement. See grainger.com/fasteners.



#### Extension (Tension)

Expand and elongate under load and have a hook, eye, or some other means of attachment at either end to allow attached pieces to give way and absorb impact, shock, or other forces. See page 2158.



#### Torsion

Ends rotate in angular deflection to offer resistance to externally applied torque. Commonly used over an arbor or mandrel for support, and in other applications where pressure needs to be maintained over a short distance. See page 2159.



1NDW4

## Spring Assortments

Note: See Grainger.com for specific contents.

Spring Assortment	No. of Sizes	No. of Pieces	Material	Item No.
<b>Compression</b>				
	8	16	Carbon Steel	3HPU6
	50	100	Carbon Steel	3HPU4
<b>Cut-to-Length Compression, Double Loop Extension, and Extension</b>				
	40	90	Carbon Steel	3HPU2
<b>Double Loop Extension</b>				
	25	25	Carbon Steel	3HPU3
<b>Extension</b>				
	50	100	Carbon Steel	3HPU5
<b>Extension, Cot Extension, Compression, and Adjustable Screen Door</b>				
	111	600	Carbon Steel	3HPU8
<b>Extension and Compression</b>				
	20	20	Carbon Steel	3HPU7
	40	123	High Carbon Steel	1NDW4
	79	218	High Carbon Steel	1NDW2
<b>Left Hand Torsion Spring</b>				
	12	36	Stainless Steel	3HPV5
	44	44	Music Wire	3HPV3
<b>Precision Compression</b>				
	75	150	High Carbon Steel	1NDW6
	75	150	302 Stainless Steel	1NDW8
<b>Right Hand Torsion Spring</b>				
	12	36	Stainless Steel	3HPV6
	44	44	Music Wire	3HPV4

## Utility Extension Springs

For use with OEM or maintenance and repair applications. Crossover center loop ends. Type 302 stainless steel meet ASTM A313 and AISI Type 302/304 standards. High carbon steel meet ASTM A227 standard.

Note: Additional sizes and ultra-precision extension springs are available on Grainger.com; search for "extension springs" or "ultra-precision extension springs."



Overall Length	Outside Dia.	Wire Dia.	Load (lb.)	Item No.	Pkg. Qty.
<b>302 Stainless Steel, Plain</b>					
1 in	0.1875 in	0.023 in	2.57	1NAJ4	6
	0.25 in	0.029 in	3.53	1NAJ5	6
	0.3125 in	0.035 in	2.77	1NAJ6	6
1 1/4 in	0.1875 in	0.023 in	2.57	1NAJ7	6
	0.25 in	0.029 in	3.53	1NAJ8	6
	0.3125 in	0.029 in	2.77	1NAJ9	6
1 1/2 in	0.3125 in	0.035 in	4.91	1NAK1	6
	0.375 in	0.035 in	3.99	1NAK2	6
	0.25 in	0.029 in	3.53	1NAK3	6
1 3/4 in	0.3125 in	0.029 in	2.77	1NAK4	6
	0.375 in	0.048 in	10.03	1NAK5	3
	0.25 in	0.029 in	3.53	1NAK6	6
2 in	0.3125 in	0.029 in	2.77	1NAK7	6
	0.375 in	0.035 in	4.91	1NAK8	6
	0.375 in	0.035 in	3.99	1NAK9	6
2 1/4 in	0.375 in	0.048 in	10.03	1NAL1	3
	0.375 in	0.048 in	10.03	1NAL2	3
	0.375 in	0.048 in	10.03	1NAL3	3
2 1/2 in	0.1875 in	0.023 in	2.57	1NAL4	6
	0.3125 in	0.035 in	4.91	1NAL5	6
	0.375 in	0.048 in	10.03	1NAL6	3
2 3/4 in	0.4375 in	0.048 in	8.5	1NAL7	3
	0.375 in	0.048 in	10.03	1NAL8	3
	0.4375 in	0.048 in	8.5	1NAL9	6
3 in	0.4375 in	0.048 in	8.5	1NAO1	6
	0.4375 in	0.048 in	8.5	1NAO2	6
	0.4375 in	0.048 in	8.5	1NAO3	6
3 1/4 in	0.4375 in	0.048 in	8.5	1NAO4	6
	0.4375 in	0.048 in	8.5	1NAO5	6
	0.4375 in	0.048 in	8.5	1NAO6	6
4 in	0.5 in	0.063 in	14.44	1NAO7	3
	0.5781 in	0.072 in	19.37	1NAO8	3

Overall Length	Outside Dia.	Wire Dia.	Load (lb.)	Item No.	Pkg. Qty.
<b>High Carbon Steel, Zinc-Plated</b>					
1 in	0.1875 in	0.023 in	2.3	1MZ5	12
	0.25 in	0.029 in	3.28	1MZ6	12
	0.3125 in	0.029 in	2.62	1MZ7	12
1 1/4 in	0.3125 in	0.035 in	4.65	1MZ8	12
	0.1875 in	0.023 in	2.33	1MZ9	12
	0.25 in	0.029 in	3.31	1MZ11	12
1 1/2 in	0.3125 in	0.029 in	2.62	1MZ2	12
	0.375 in	0.035 in	4.61	1MZ3	12
	0.375 in	0.035 in	3.79	1MZ4	12
1 3/4 in	0.1875 in	0.023 in	2.43	1MZ5	12
	0.25 in	0.029 in	3.37	1MZ6	12
	0.3125 in	0.029 in	2.62	1MZ7	12
2 in	0.3125 in	0.035 in	4.67	1MZ8	12
	0.3125 in	0.035 in	4.67	1MZ9	12
	0.375 in	0.048 in	9.59	1MZ1	3
2 1/4 in	0.25 in	0.029 in	3.35	1MZ2	12
	0.3125 in	0.029 in	2.61	1MZ3	12
	0.3125 in	0.035 in	4.64	1MZ4	12
2 1/2 in	0.375 in	0.035 in	3.8	1MZ5	12
	0.375 in	0.048 in	9.54	1MZ6	3
	0.1875 in	0.023 in	2.34	1MZ8	12
2 in	0.25 in	0.029 in	3.35	1MZ9	12
	0.3125 in	0.029 in	2.61	1NA1	12
	0.3125 in	0.035 in	4.65	1NA2	6
2 1/4 in	0.375 in	0.035 in	3.81	1NA3	12
	0.375 in	0.048 in	9.53	1NA4	3
	0.25 in	0.029 in	3.37	1NA6	12
2 1/2 in	0.3125 in	0.029 in	2.62	1NA7	12
	0.3125 in	0.035 in	4.57	1NA8	12
	0.375 in	0.035 in	3.8	1NA9	3
3 in	0.375 in	0.048 in	9.53	1NA1	3

Overall Length	Outside Dia.	Wire Dia.	Load (lb.)	Item No.	Pkg. Qty.
2 1/2 in	0.1875 in	0.023 in	2.39	1NAB2	12
	0.25 in	0.029 in	3.36	1NAB3	12
	0.3125 in	0.029 in	2.61	1NAB4	12
3 in	0.375 in	0.035 in	4.67	1NAB5	12
	0.375 in	0.035 in	3.81	1NAB6	3
	0.4375 in	0.048 in	9.53	1NAB7	6
3 1/4 in	0.4375 in	0.048 in	8	1NAB8	6
	0.375 in	0.035 in	3.81	1NAB9	3
	0.375 in	0.048 in	9.53	1NAC1	6
3 1/2 in	0.4375 in	0.048 in	8.03	1NAC2	12
	0.375 in	0.035 in	3.8	1NAC3	3
	0.375 in	0.048 in	9.53	1NAC4	6
3 3/4 in	0.4375 in	0.048 in	8.01	1NAC5	12
	0.4375 in	0.048 in	8.02	1NAC6	12
	0.4375 in	0.048 in	8.02	1NAC7	12
4 in	0.4375 in	0.048 in	8.02	1NAC8	12
	0.125 in	0.016 in	1.04	1NAC9	12
	0.1563 in	0.02 in	1.52	1NAD2	12
4 1/4 in	0.1875 in	0.023 in	2.2	1NAD3	12
	0.2031 in	0.026 in	2.52	1NAD4	12
	0.2344 in	0.029 in	3.72	1NAD5	12
4 1/2 in	0.25 in	0.032 in	4.56	1NAD6	6
	0.2813 in	0.035 in	7.08	1NAD7	6
	0.3281 in	0.041 in	7.37	1NAD8	6
4 3/4 in	0.375 in	0.048 in	13.82	1NAD9	6
	0.4375 in	0.048 in	7.79	1NAE1	6
	0.4375 in	0.054 in	11.92	1NAE2	6
5 in	0.5 in	0.063 in	16.61	1NAE3	3
	0.5781 in	0.072 in	22.28	1NAE4	3

Overall Length	Outside Dia.	Wire Dia.	Load (lb.)	Item No.	Pkg. Qty.
6 in	0.125 in	0.016 in	1.07	1NAE5	6
	0.1875 in	0.02 in	1.5	1NAE7	6
	0.2031 in	0.023 in	1.8	1NAE8	6
6 1/2 in	0.2344 in	0.026 in	2.6	1NAE9	6
	0.25 in	0.029 in	3.9	1NAF1	6
	0.2813 in	0.032 in	4.8	1NAF2	3
6 1/4 in	0.2813 in	0.035 in	5.7	1NAF3	6
	0.3281 in	0.041 in	6.7	1NAF4	6
	0.4375 in	0.048 in	9.6	1NAF5	6
6 3/4 in	0.375 in	0.054 in	10.8	1NAF6	6
	0.5 in	0.063 in	16.8	1NAF7	3
	0.5781 in	0.072 in	19.8	1NAF8	3
7 in	0.125 in	0.016 in	1.31	1NAF9	6
	0.1563 in	0.02 in	2.04	1NAH2	6
	0.1875 in	0.023 in	1.8	1NAH3	6
7 1/4 in	0.25 in	0.032 in	4.5	1NAH6	6
	0.2813 in	0.035 in	7.2	1NAH7	6
	0.3281 in	0.041 in	7	1NAH8	6
7 1/2 in	0.375 in	0.048 in	10.2	1NAH9	6
	0.4375 in	0.054 in	10.9	1NAJ1	6
	0.5 in	0.063 in	18.5	1NAJ2	6
7 3/4 in	0.5781 in	0.072 in	24.6	1NAJ3	6