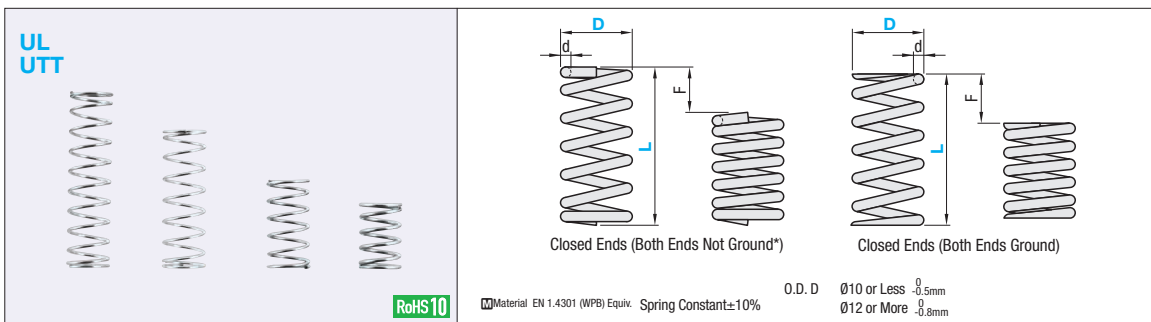


Round Coil Springs

O.D. Referenced Stainless Steel



UL: Fmax. (Allowable Deflection) =Lx40%

Part Number Type D-L	d	Solid Length	F max.	N{kkgf} max.	Unit Price
UL 2- 5*	0.2	1.65	2	0.98 {0.1}	
10*	0.26	5.07	4	1.96 {0.2}	
15*	0.26	5.07	6	2.94 {0.3}	
20*	0.3	9.9	8	3.92 {0.4}	
25*	0.32	14.1	10	4.90 {0.5}	
30*	0.32	14.1	12	5.88 {0.6}	
UL 3- 5*	0.30	2	2	2.0 {0.2}	
10*	0.35	3.7	4	3.9 {0.4}	
15*	0.4	6.6	6	5.9 {0.6}	
20*	0.4	6.6	8	7.8 {0.8}	
25*	0.45	11.7	10	9.8 {1}	
30*	0.45	11.7	12	11.8 {1.2}	
35*	0.45	11.7	14	13.7 {1.4}	
40*	0.5	20	16	15.7 {1.6}	
UL 4- 5*	0.35	2.1	2	2.0 {0.2}	
10*	0.45	5.3	4	3.9 {0.4}	
15*	0.45	5.3	6	5.9 {0.6}	
20*	0.5	8	8	7.8 {0.8}	
25*	0.5	8	10	9.8 {1}	
30*	0.55	12.7	12	11.8 {1.2}	
35*	0.55	12.7	14	13.7 {1.4}	
40	0.6	19.8	16	15.7 {1.6}	
45	0.6	19.8	18	17.7 {1.8}	
50	0.6	19.8	20	19.6 {2}	
60	0.65	29.9	24	23.5 {2.4}	
UL 5- 5*	0.4	2.2	2	2.0 {0.2}	
10*	0.5	4.75	4	3.9 {0.4}	
15*	0.5	4.75	6	5.9 {0.6}	
20*	0.55	6.88	8	7.8 {0.8}	
25*	0.55	6.88	10	9.8 {1}	
30	0.65	14.95	12	11.8 {1.2}	
35	0.65	14.95	14	13.7 {1.4}	
40	0.65	14.95	16	15.7 {1.6}	
45	0.7	21.7	18	17.7 {1.8}	
50	0.7	21.7	20	19.6 {2}	
60	0.75	30.75	24	23.5 {2.4}	
UL 6- 5*	0.45	2.3	2	2.0 {0.2}	
10*	0.55	4.4	4	3.9 {0.4}	
15*	0.55	4.4	6	5.9 {0.6}	
20	0.65	8.5	8	7.8 {0.8}	
25	0.65	8.5	10	9.8 {1}	
30	0.7	12.6	12	11.8 {1.2}	
35	0.7	12.6	14	13.7 {1.4}	
40	0.7	12.6	16	15.7 {1.6}	
45	0.75	17.3	18	17.7 {1.8}	
50	0.75	17.3	20	19.6 {2}	
60	0.8	24.8	24	23.5 {2.4}	
70	0.8	24.8	28	27.5 {2.8}	

Part Number Type D-L	d	Solid Length	F max.	N{kkgf} max.	Unit Price
UL 8- 10	0.65	4.6	4	3.9 {0.4}	
15	0.75	8.3	6	5.9 {0.6}	
20	0.75	8.3	8	7.8 {0.8}	
25	0.75	8.3	10	9.8 {1}	
30	0.8	10.4	12	11.8 {1.2}	
35	0.8	10.4	14	13.7 {1.4}	
40	0.8	10.4	16	15.7 {1.6}	
45	0.85	14.5	18	17.7 {1.8}	
50	0.85	14.5	20	19.6 {2}	
60	0.9	18	24	23.5 {2.4}	
70	1.0	30	28	27.5 {2.8}	
80	1.0	30	32	31.4 {3.2}	
UL 10- 10	0.75	4.7	4	3.9 {0.4}	
15	0.8	6.2	6	5.9 {0.6}	
20	0.8	6.2	8	7.8 {0.8}	
25	0.9	9.5	10	9.8 {1}	
30	0.9	9.5	12	11.8 {1.2}	
35	0.9	9.5	14	13.7 {1.4}	
40	1.0	15.5	16	15.7 {1.6}	
45	1.0	15.5	18	17.7 {1.8}	
50	1.0	15.5	20	19.6 {2}	
60	1.1	23.7	24	23.5 {2.4}	
70	1.1	23.7	28	27.5 {2.8}	
80	1.1	23.7	32	31.4 {3.2}	
UL 12- 15	0.9	6.75	6	5.9 {0.6}	
20	1	10	8	7.8 {0.8}	
25	1	10	10	9.8 {1.0}	
30	1.1	14.85	12	11.8 {1.2}	
35	1.1	14.85	14	13.7 {1.4}	
40	1.2	21.6	16	15.7 {1.6}	
45	1.2	21.6	18	17.7 {1.8}	
50	1.2	21.6	20	19.6 {2.0}	
60	1.3	32.5	24	23.5 {2.4}	
70	1.3	32.5	28	27.5 {2.8}	
80	1.4	46.2	32	31.4 {3.2}	

Part Number Type D-L	d	Solid Length	F max.	N{kkgf} max.	Unit Price
UL 13- 15	0.9	5.4	6	5.9 {0.6}	
20	1.0	8.25	8	7.8 {0.8}	
25	1.0	8.25	10	9.8 {1}	
30	1.1	12.1	12	11.8 {1.2}	
35	1.1	12.1	14	13.7 {1.4}	
40	1.1	12.1	16	15.7 {1.6}	
45	1.2	16.8	18	17.7 {1.8}	
50	1.2	16.8	20	19.6 {2}	
60	1.2	16.8	24	23.5 {2.4}	
70	1.4	35	28	27.5 {2.8}	
80	1.4	35	32	31.4 {3.2}	
UL 16- 15	1.1	7.7	6	5.9 {0.6}	
20	1.1	7.7	8	7.8 {0.8}	
25	1.2	10.8	10	9.8 {1}	
30	1.2	10.8	12	11.8 {1.2}	
35	1.3	14.3	14	13.7 {1.4}	
40	1.3	14.3	16	15.7 {1.6}	
45	1.4	19.6	18	17.7 {1.8}	
50	1.4	19.6	20	19.6 {2}	
60	1.4	19.6	24	23.5 {2.4}	
70	1.5	27	28	27.5 {2.8}	
80	1.5	27	32	31.4 {3.2}	
UL 20- 20	1.6	10.4	8	23.5 {2.4}	
25	1.6	10.4	10	29.4 {3}	
30	1.7	12.8	12	35.3 {3.6}	
35	1.7	12.8	14	41.2 {4.2}	
40	1.8	15.3	16	47.1 {4.8}	
45	1.8	15.3	18	53.0 {5.4}	
50	2	23	20	58.8 {6}	
60	2	23	24	70.6 {7.2}	
70	2.2	35.2	28	82.4 {8.4}	
80	2.2	35.2	32	94.1 {9.6}	

kgf (Load)=N/mm (Spring Constant) x0.10192xF (Deflection)
{kgf}=Nx0.101972
For Types marked with *, both ends are not ground.
The values of solid length are for reference only.
Usage Count: 1 Million Times

Alterations Part Number - (LKC)
UL6-20 - LKC

Alterations	Code	Spec.																																																						
	LKC	Changes length and spring constant tolerance. (Refer to the table below)																																																						
		<table><tr><th colspan="2">Part Number</th><th colspan="2">L</th><th rowspan="2">Spring Constant Tolerance</th></tr><tr><th>Type</th><th>D</th><th>Specify in 5mm Increment</th><th>Alterations</th><th>Tolerance</th></tr><tr><td rowspan="10">UL</td><td rowspan="2">5</td><td>30-50</td><td rowspan="10">LKC</td><td>±0.5</td><td rowspan="10">±5%</td></tr><tr><td>60</td><td>±0.8</td></tr><tr><td rowspan="2">6</td><td>20</td><td>±0.4</td></tr><tr><td>25-50</td><td>±0.5</td></tr><tr><td rowspan="2">8</td><td>60, 70</td><td>±0.8</td></tr><tr><td>10-20</td><td>±0.4</td></tr><tr><td rowspan="2">10</td><td>25-50</td><td>±0.5</td></tr><tr><td>60, 70</td><td>±0.8</td></tr><tr><td rowspan="2">12</td><td>15-30</td><td>±0.5</td></tr><tr><td>35-50</td><td>±0.5</td></tr><tr><td rowspan="2">13</td><td>60, 70, 80</td><td>±0.8</td></tr><tr><td>20-30</td><td>±0.5</td></tr><tr><td rowspan="2">16</td><td>35-50</td><td>±0.5</td></tr><tr><td>60, 70, 80</td><td>±0.8</td></tr><tr><td rowspan="2">20</td><td>20-30</td><td>±0.5</td></tr><tr><td>35-50</td><td>±0.5</td></tr><tr><td></td><td>60, 70, 80</td><td>±0.8</td></tr></table>	Part Number		L		Spring Constant Tolerance	Type	D	Specify in 5mm Increment	Alterations	Tolerance	UL	5	30-50	LKC	±0.5	±5%	60	±0.8	6	20	±0.4	25-50	±0.5	8	60, 70	±0.8	10-20	±0.4	10	25-50	±0.5	60, 70	±0.8	12	15-30	±0.5	35-50	±0.5	13	60, 70, 80	±0.8	20-30	±0.5	16	35-50	±0.5	60, 70, 80	±0.8	20	20-30	±0.5	35-50	±0.5	
Part Number		L		Spring Constant Tolerance																																																				
Type	D	Specify in 5mm Increment	Alterations		Tolerance																																																			
UL	5	30-50	LKC	±0.5	±5%																																																			
		60		±0.8																																																				
	6	20		±0.4																																																				
		25-50		±0.5																																																				
	8	60, 70		±0.8																																																				
		10-20		±0.4																																																				
	10	25-50		±0.5																																																				
		60, 70		±0.8																																																				
	12	15-30		±0.5																																																				
		35-50		±0.5																																																				
13	60, 70, 80	±0.8																																																						
	20-30	±0.5																																																						
16	35-50	±0.5																																																						
	60, 70, 80	±0.8																																																						
20	20-30	±0.5																																																						
	35-50	±0.5																																																						
	60, 70, 80	±0.8																																																						
		⦿ Both ends are ground. ⦿ For orders larger than indicated quantity, please check with WOS. ⦿ Applicable to D5 or more.																																																						

UTT: Fmax. (Allowable Deflection) =LxFa%

Part Number Type D-L	d	Solid Length	F max.	N{kkgf} Max.	Fa%	Unit Price
UTT 3- 5*	0.35	2.8	2	2.9 {0.3}	40	
10*	0.4	4.8	4	5.9 {0.6}		
15*	0.45	8.3	6	8.8 {0.9}		
20*	0.45	8.3	6	8.8 {0.9}	30	
25*	0.5	14	8	11.8 {1.2}	32	
30*	0.5	14	8	11.8 {1.2}	27	
UTT 4- 5*	0.4	2.6	2	2.9 {0.3}		
10*	0.45	3.9	4	5.9 {0.6}	40	
15*	0.5	6	6	8.8 {0.9}		
20*	0.55	9.4	8	11.8 {1.2}		
25	0.6	14.4	10	14.7 {1.5}		
30	0.6	14.4	10	14.7 {1.5}	33	
UTT 5- 5*	0.45	2.6	2	2.9 {0.3}		
10*	0.5	3.6	4	5.9 {0.6}		
15	0.6	7.5	6	8.8 {0.9}		
20	0.6	7.5	8	11.8 {1.2}	40	
25	0.65	10.7	10	14.7 {1.5}		
30	0.7	15.4	12	17.7 {1.8}		
35	0.7	15.4	14	20.6 {2.1}		
UTT 6- 5*	0.5	2.4	2	3.9 {0.4}		
10	0.6	4.2	4	7.8 {0.8}		
15	0.7	7.4	6	11.8 {1.2}		
20	0.7	7.4	8	15.7 {1.6}	40	
25	0.8	13.6	10	19.6 {2.0}		
30	0.8	13.6	12	23.5 {2.4}		
35	0.85	17.5	14	27.5 {2.8}		
40	0.9	23.4	16	31.4 {3.2}		
45	0.9	23.4	18	35.3 {3.6}		
50	0.9	23.4	18	35.3 {3.6}	36	
60	1.0	41	18	35.3 {3.6}	30	
70	1.0	41	24	47.1 {4.8}	34	

Ordering Example Part Number
UL16-80
UTT16-80

Alterations Part Number - (LKC)
UTT6-35 - LKC

Part Number Type D-L	d	Solid Length	F max.	N{kkgf} Max.	Fa%	Unit Price
UTT 8- 10	0.75	5.3	4	7.8 {0.8}		
15	0.75	5.3	6	11.8 {1.2}		
20	0.9	10.4	8	15.7 {1.6}		
25	0.9	10.4	10	19.6 {2.0}		
30	1.0	17	12	23.5 {2.4}		
35	1.0	17	14	27.5 {2.8}	40	
40	1.0	17	16	31.4 {3.2}		
45	1.1	25.3	18	35.3 {3.6}		
50	1.1	25.3	20	39.2 {4.0}		
60	1.1	25.3	24	47.1 {4.8}		
70	1.2	39.6	28	54.9 {5.6}		
UTT 10- 10	0.85	5.1	4	7.8 {0.8}		
15	0.85	5.1	6	11.8 {1.2}		
20	1.0	9.5	8	15.7 {1.6}		
25	1.0	9.5	10	19.6 {2.0}		
30	1.1	14.3	12	23.5 {2.4}	40	
35	1.1	14.3	14	27.5 {2.8}		
40	1.2	20.4	16	31.4 {3.2}		
45	1.2	20.4	18	35.3 {3.6}		
50	1.2	20.4	20	39.2 {4.0}		
60	1.3	29.9	24	47.1 {4.8}		
70	1.4	43.4	24	47.1 {4.8}	34	
UTT 13- 15	1.0	5.75	6	11.8 {1.2}		
20	1.2	10.5	8	15.7 {1.6}		
25	1.2	10.5	10	19.6 {2.0}		
30	1.3	15	12	23.5 {2.4}	40	
35	1.3	15	14	27.5 {2.8}		
40	1.4	20.3	16	31.4 {3.2}		
45	1.4	20.3	18	35.3 {3.6}		
50	1.5	27.8	20	39.2 {4.0}		
60	1.5	27.8	24	47.1 {4.8}		
70	1.6	38.4	28	54.9 {5.6}		
80	1.6	38.4	32	62.8 {6.4}		

Part Number TypeD-L	d	Solid Length	F max.	N[kgF] Max.	Fa%	Unit Price	
UTT 16- 15	15	1.2	7.2	6	11.8 {1.2}	40	
	20	1.3	9.1	8	15.7 {1.6}		
	25	1.3	9.1	10	19.6 {2.0}		
	30	1.4	12.3	12	23.5 {2.4}		
	35	1.5	16.5	14	27.5 {2.8}		
	40	1.6	21.6	16	31.4 {3.2}		
	45	1.6	21.6	18	35.3 {3.6}		
	50	1.7	28	20	39.2 {4.0}		
	60	1.7	28	24	47.1 {4.8}		
	70	1.8	36	28	54.9 {5.6}		
80	1.8	36	32	62.8 {6.4}			
UTT 20- 20	20	1.7	10.6	8	31.4 {3.2}	40	
	25	1.8	12.6	10	39.2 {4.0}		
	30	1.8	12.6	12	47.1 {4.8}		
	35	2.0	19	14	54.9 {5.6}		
	40	2.0	19	16	62.8 {6.4}		
	45	2.0	19	18	70.6 {7.2}		
	50	2.2	27.5	20	78.5 {8.0}		
	60	2.2	27.5	24	94.1 {9.6}		
	70	2.3	34.5	28	109.8 {11.2}		
	80	2.4	40.8	32	125.5 {12.8}		