

# LeeP™ PLASTIC COMPOSITE SPRINGS

## Guide to using tables

**SI No.** spring Index.      **Colour** spring strength.      **Outside Diameter** arranged through the pages in ascending order of size.      **Inside Diameter** nominal dimension.      **Load at Solid Height** the load or force required to bring all the coils into contact.      **Spring Rate** change in load or force per unit of deflection.      **Price Group** reference to the price list.

LeeP™ PLASTIC COMPOSITE SPRINGS  
● Ultem® PEI (polyetherimide) resin

SI. No	LEE STOCK NUMBER	COLOUR	TO WORK IN HOLE DIAMETER MIN.		OUTSIDE DIAMETER		TO WORK OVER ROD DIAMETER MAX.		INSIDE DIAMETER	
			MM	IN	MM	IN	MM	IN	MM	IN
1	LL 038 U000	Red	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
2	LL 038 U10G	Orange	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
3	LL 038 U20G	Yellow	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
4	LL 038 U30G	Green	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
5	LL 038 U36G	Blue	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
6	LL 038 U40G	Violet	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
7	LL 038 050 U000	Red	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
8	LL 038 050 U10G	Orange	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
9	LL 038 050 U20G	Yellow	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
10	LL 038 050 U30G	Green	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
11	LL 038 050 U36G	Blue	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
12	LL 038 050 U40G	---	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186

  

MATERIAL THICKNESS X RADIAL WALL		APPROXIMATE LOAD AT SOLID HEIGHT		NOMINAL FREE LENGTH		SPRING RATE		APPROXIMATE SOLID HEIGHT		DIRECTION OF WIND	PRICE GROUP
MM	IN	N	LB	MM	IN	N/MM	LB/IN	MM	IN		
0.76 X 2.08	0.30 X 0.82	4.41	0.99	9.53	0.375	0.65	3.70	2.74	0.108	Left	AM
0.76 X 2.08	0.30 X 0.82	6.67	1.50	9.53	0.375	0.98	5.59	2.74	0.108	Left	AM
0.76 X 2.08	0.30 X 0.82	7.28	1.64	9.53	0.375	1.07	6.11	2.74	0.108	Left	AM
0.76 X 2.08	0.30 X 0.82	8.06	1.81	9.53	0.375	1.18	6.76	2.74	0.108	Left	AM
0.76 X 2.08	0.30 X 0.82	8.64	1.94	9.53	0.375	1.27	7.25	2.74	0.108	Left	AM
0.76 X 2.08	0.30 X 0.82	9.08	2.04	9.53	0.375	1.35	7.62	2.74	0.108	Left	AM
0.76 X 2.08	0.30 X 0.82	4.41	0.99	12.70	0.500	0.46	2.65	3.22	0.127	Left	AM
0.76 X 2.08	0.30 X 0.82	6.67	1.50	12.70	0.500	0.70	4.00	3.22	0.127	Left	AM
0.76 X 2.08	0.30 X 0.82	7.28	1.64	12.70	0.500	0.77	4.37	3.22	0.127	Left	AM
0.76 X 2.08	0.30 X 0.82	8.06	1.81	12.70	0.500	0.85	4.84	3.22	0.127	Left	AM
0.76 X 2.08	0.30 X 0.82	8.64	1.94	12.70	0.500	0.91	5.19	3.22	0.127	Left	AM
0.76 X 2.08	0.30 X 0.82	9.08	2.04	12.70	0.500	0.91	5.19	3.22	0.127	Left	AM
1.07 X 2.84	0.42 X 1.11	8.48	1.91	12.70	0.500	0.91	5.19	3.22	0.127	Left	AM
1.07 X 2.84	0.42 X 1.11	12.82	2.83	12.70	0.500	0.91	5.19	3.22	0.127	Left	AM
1.07 X 2.84	0.42 X 1.11	12.82	2.83	12.70	0.500	0.91	5.19	3.22	0.127	Left	AM

**Lee Stock Number**  
ordering reference.

**Minimum Hole Diameter**  
required for the effective operation of the spring, allowing for manufacturing tolerances and normal working conditions.

**Maximum Rod Diameter**  
over which the spring will effectively operate, allowing for working conditions and manufacturing tolerances.

**Material Thickness x Radial Wall**  
nominal dimensions.

**Free Length**  
the overall length of the spring in the unloaded position.

**Solid Height**  
length when fully compressed.

### ADDITIONAL INFORMATION

- LeeP™ plastic composite compression springs combine the strength of metal with the special attributes of high performance engineered thermoplastics.
- Manufactured in Ultem® PEI (polyetherimide) resin. Different formulations are designed to meet or exceed performance criteria.
- Benefits include:
  - Unique patent pending designs that maximise spring rates and cycle life, while minimizing solid height
  - High strength to weight ratios that optimise performance while reducing mass
  - Excellent stability of physical and mechanical properties at elevated temperatures up to 170°C (340°F)
  - High corrosion resistance and compatibility with many chemicals including strong acids, weak bases, aromatics, and ketones
  - Non-magnetic. Does not interfere with imaging and other ferro-sensitive technologies
  - Dielectric insulation. Suitable for non-conductive applications
  - Inert, non-contaminating material protects product purity
  - Low flammability and toxicity ensure environmental safety
  - Recyclable and compliant with global regulations including RoHS and REACH
- LeeP™ plastic composite springs are available in a variety of standard sizes and six colour coded strengths: red, orange, yellow, green, blue and violet, the strongest.
- Custom designs to meet precise performance requirements are available.

\*Ultem resin is produced by SABIC Innovative Plastics, a leader in engineered thermoplastic material solutions.



# LeeP™ PLASTIC COMPOSITE SPRINGS

● Ultem\* PEI (polyetherimide) resin

Sl. No	LEE STOCK NUMBER	COLOUR	TO WORK IN HOLE DIAMETER MIN.		OUTSIDE DIAMETER		TO WORK OVER ROD DIAMETER MAX.		INSIDE DIAMETER	
			MM	IN	MM	IN	MM	IN	MM	IN
1	LL 038 038 U000	Red	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
2	LL 038 038 U10G	Orange	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
3	LL 038 038 U20G	Yellow	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
4	LL 038 038 U30G	Green	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
5	LL 038 038 U36G	Blue	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
6	LL 038 038 U40G	Violet	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
7	LL 038 050 U000	Red	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
8	LL 038 050 U10G	Orange	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
9	LL 038 050 U20G	Yellow	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
10	LL 038 050 U30G	Green	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
11	LL 038 050 U36G	Blue	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
12	LL 038 050 U40G	Violet	9.53	0.375	8.89	0.350	3.81	0.150	4.72	0.186
13	LL 050 050 U000	Red	12.70	0.500	12.32	0.485	5.54	0.218	6.63	0.261
14	LL 050 050 U10G	Orange	12.70	0.500	12.32	0.485	5.54	0.218	6.63	0.261
15	LL 050 050 U20G	Yellow	12.70	0.500	12.32	0.485	5.54	0.218	6.63	0.261
16	LL 050 050 U30G	Green	12.70	0.500	12.32	0.485	5.54	0.218	6.63	0.261
17	LL 050 050 U36G	Blue	12.70	0.500	12.32	0.485	5.54	0.218	6.63	0.261
18	LL 050 050 U40G	Violet	12.70	0.500	12.32	0.485	5.54	0.218	6.63	0.261
19	LL 050 075 U000	Red	12.70	0.500	11.94	0.470	5.54	0.218	6.25	0.246
20	LL 050 075 U10G	Orange	12.70	0.500	11.94	0.470	5.54	0.218	6.25	0.246
21	LL 050 075 U20G	Yellow	12.70	0.500	11.94	0.470	5.54	0.218	6.25	0.246
22	LL 050 075 U30G	Green	12.70	0.500	11.94	0.470	5.54	0.218	6.25	0.246
23	LL 050 075 U36G	Blue	12.70	0.500	11.94	0.470	5.54	0.218	6.25	0.246
24	LL 050 075 U40G	Violet	12.70	0.500	11.94	0.470	5.54	0.218	6.25	0.246
25	LL 075 075 U000	Red	19.05	0.750	18.29	0.720	8.71	0.343	9.55	0.376
26	LL 075 075 U10G	Orange	19.05	0.750	18.29	0.720	8.71	0.343	9.55	0.376
27	LL 075 075 U20G	Yellow	19.05	0.750	18.29	0.720	8.71	0.343	9.55	0.376
28	LL 075 075 U30G	Green	19.05	0.750	18.29	0.720	8.71	0.343	9.55	0.376
29	LL 075 075 U36G	Blue	19.05	0.750	18.29	0.720	8.71	0.343	9.55	0.376
30	LL 075 075 U40G	Violet	19.05	0.750	18.29	0.720	8.71	0.343	9.55	0.376
31	LL 075 100 U000	Red	19.05	0.750	18.29	0.720	8.71	0.343	9.55	0.376
32	LL 075 100 U10G	Orange	19.05	0.750	18.29	0.720	8.71	0.343	9.55	0.376
33	LL 075 100 U20G	Yellow	19.05	0.750	18.29	0.720	8.71	0.343	9.55	0.376
34	LL 075 100 U30G	Green	19.05	0.750	18.29	0.720	8.71	0.343	9.55	0.376
35	LL 075 100 U36G	Blue	19.05	0.750	18.29	0.720	8.71	0.343	9.55	0.376
36	LL 075 100 U40G	Violet	19.05	0.750	18.29	0.720	8.71	0.343	9.55	0.376
37	LL 100 100 U000	Red	25.40	1.000	24.51	0.965	11.91	0.469	12.83	0.505
38	LL 100 100 U10G	Orange	25.40	1.000	24.51	0.965	11.91	0.469	12.83	0.505
39	LL 100 100 U20G	Yellow	25.40	1.000	24.51	0.965	11.91	0.469	12.83	0.505
40	LL 100 100 U30G	Green	25.40	1.000	24.51	0.965	11.91	0.469	12.83	0.505
41	LL 100 100 U36G	Blue	25.40	1.000	24.51	0.965	11.91	0.469	12.83	0.505
42	LL 100 100 U40G	Violet	25.40	1.000	24.51	0.965	11.91	0.469	12.83	0.505
43	LL 100 125 U000	Red	25.40	1.000	24.51	0.965	11.91	0.469	12.83	0.505
44	LL 100 125 U10G	Orange	25.40	1.000	24.51	0.965	11.91	0.469	12.83	0.505
45	LL 100 125 U20G	Yellow	25.40	1.000	24.51	0.965	11.91	0.469	12.83	0.505
46	LL 100 125 U30G	Green	25.40	1.000	24.51	0.965	11.91	0.469	12.83	0.505
47	LL 100 125 U36G	Blue	25.40	1.000	24.51	0.965	11.91	0.469	12.83	0.505
48	LL 100 125 U40G	Violet	25.40	1.000	24.51	0.965	11.91	0.469	12.83	0.505

\*Ultem resin is produced by SABIC Innovative Plastics, a leader in engineered thermoplastic material solutions



● **Ultem\* PEI (polyetherimide) resin**

MATERIAL THICKNESS X RADIAL WALL		APPROXIMATE LOAD AT SOLID HEIGHT		NOMINAL FREE LENGTH		SPRING RATE		APPROXIMATE SOLID HEIGHT		DIRECTION OF WIND	PRICE GROUP
MM	IN	N	LB	MM	IN	N/MM	LB/IN	MM	IN		
0.76 X 2.08	.030 X .082	4.41	0.99	9.53	0.375	0.65	3.70	2.74	0.108	Left	AM
0.76 X 2.08	.030 X .082	6.67	1.50	9.53	0.375	0.98	5.59	2.74	0.108	Left	AM
0.76 X 2.08	.030 X .082	7.28	1.64	9.53	0.375	1.07	6.11	2.74	0.108	Left	AM
0.76 X 2.08	.030 X .082	8.06	1.81	9.53	0.375	1.18	6.76	2.74	0.108	Left	AM
0.76 X 2.08	.030 X .082	8.64	1.94	9.53	0.375	1.27	7.25	2.74	0.108	Left	AM
0.76 X 2.08	.030 X .082	9.08	2.04	9.53	0.375	1.33	7.62	2.74	0.108	Left	AM
0.76 X 2.08	.030 X .082	4.41	0.99	12.70	0.500	0.46	2.65	3.22	0.127	Left	AM
0.76 X 2.08	.030 X .082	6.67	1.50	12.70	0.500	0.70	4.00	3.22	0.127	Left	AM
0.76 X 2.08	.030 X .082	7.28	1.64	12.70	0.500	0.77	4.37	3.22	0.127	Left	AM
0.76 X 2.08	.030 X .082	8.06	1.81	12.70	0.500	0.85	4.84	3.22	0.127	Left	AM
0.76 X 2.08	.030 X .082	8.64	1.94	12.70	0.500	0.91	5.19	3.22	0.127	Left	AM
0.76 X 2.08	.030 X .082	9.08	2.04	12.70	0.500	0.96	5.46	3.22	0.127	Left	AM
1.07 X 2.84	.042 X .112	8.48	1.91	12.70	0.500	0.95	5.40	3.75	0.148	Right	AM
1.07 X 2.84	.042 X .112	12.82	2.88	12.70	0.500	1.43	8.16	3.75	0.148	Right	AM
1.07 X 2.84	.042 X .112	14.00	3.15	12.70	0.500	1.56	8.91	3.75	0.148	Right	AM
1.07 X 2.84	.042 X .112	15.50	3.48	12.70	0.500	1.73	9.87	3.75	0.148	Right	AM
1.07 X 2.84	.042 X .112	16.61	3.73	12.70	0.500	1.85	10.57	3.75	0.148	Right	AM
1.07 X 2.84	.042 X .112	17.47	3.93	12.70	0.500	1.95	11.12	3.75	0.148	Right	AM
1.07 X 2.84	.042 X .112	8.83	1.99	19.05	0.750	0.62	3.56	4.91	0.193	Left	AP
1.07 X 2.84	.042 X .112	13.36	3.00	19.05	0.750	0.94	5.38	4.91	0.193	Left	AP
1.07 X 2.84	.042 X .112	14.59	3.28	19.05	0.750	1.03	5.88	4.91	0.193	Left	AP
1.07 X 2.84	.042 X .112	16.15	3.63	19.05	0.750	1.14	6.50	4.91	0.193	Left	AP
1.07 X 2.84	.042 X .112	17.31	3.89	19.05	0.750	1.22	6.97	4.91	0.193	Left	AP
1.07 X 2.84	.042 X .112	18.20	4.09	19.05	0.750	1.28	7.33	4.91	0.193	Left	AP
1.57 X 4.37	.062 X .172	19.31	4.34	19.05	0.750	1.43	8.18	5.61	0.221	Right	AN
1.57 X 4.37	.062 X .172	29.20	6.56	19.05	0.750	2.17	12.37	5.61	0.221	Right	AN
1.57 X 4.37	.062 X .172	31.89	7.17	19.05	0.750	2.37	13.51	5.61	0.221	Right	AN
1.57 X 4.37	.062 X .172	35.31	7.94	19.05	0.750	2.62	14.96	5.61	0.221	Right	AN
1.57 X 4.37	.062 X .172	37.84	8.50	19.05	0.750	2.81	16.03	5.61	0.221	Right	AN
1.57 X 4.37	.062 X .172	39.79	8.94	19.05	0.750	2.95	16.85	5.61	0.221	Right	AN
1.57 X 4.37	.062 X .172	19.31	4.34	25.40	1.000	1.02	5.85	6.59	0.259	Right	AP
1.57 X 4.37	.062 X .172	29.20	6.56	25.40	1.000	1.55	8.84	6.59	0.259	Right	AP
1.57 X 4.37	.062 X .172	31.89	7.17	25.40	1.000	1.69	9.66	6.59	0.259	Right	AP
1.57 X 4.37	.062 X .172	35.31	7.94	25.40	1.000	1.87	10.69	6.59	0.259	Right	AP
1.57 X 4.37	.062 X .172	37.84	8.50	25.40	1.000	2.01	11.45	6.59	0.259	Right	AP
1.57 X 4.37	.062 X .172	39.79	8.94	25.40	1.000	2.11	12.04	6.59	0.259	Right	AP
2.16 X 5.84	.085 X .230	36.19	8.13	25.40	1.000	2.04	11.64	7.70	0.303	Right	AP
2.16 X 5.84	.085 X .230	54.72	12.30	25.40	1.000	3.08	17.60	7.70	0.303	Right	AP[
2.16 X 5.84	.085 X .230	59.77	13.43	25.40	1.000	3.37	19.23	7.70	0.303	Right	AP
2.16 X 5.84	.085 X .230	66.17	14.87	25.40	1.000	3.73	21.28	7.70	0.303	Right	AP
2.16 X 5.84	.085 X .230	70.90	15.93	25.40	1.000	4.00	22.81	7.70	0.303	Right	AP
2.16 X 5.84	.085 X .230	74.56	16.76	25.40	1.000	4.20	23.98	7.70	0.303	Right	AP
2.16 X 5.84	.085 X .230	36.19	8.13	31.75	1.250	1.57	8.95	8.72	0.343	Right	AQ
2.16 X 5.84	.085 X .230	54.72	12.30	31.75	1.250	2.37	13.53	8.72	0.343	Right	AQ
2.16 X 5.84	.085 X .230	59.77	13.43	31.75	1.250	2.59	14.78	8.72	0.343	Right	AQ
2.16 X 5.84	.085 X .230	66.17	14.87	31.75	1.250	2.87	16.36	8.72	0.343	Right	AQ
2.16 X 5.84	.085 X .230	70.90	15.93	31.75	1.250	3.07	17.53	8.72	0.343	Right	AQ
2.16 X 5.84	.085 X .230	74.56	16.76	31.75	1.250	3.23	18.43	8.72	0.343	Right	AQ

\*Ultem resin is produced by SABIC Innovative Plastics, a leader in engineered thermoplastic material solutions