

TENSION CHART

PROPER WIRE TENSIONING

How do you ensure consistency in your winding process? The most overlooked detail of coil winding is proper and uniform tensioning. Uniform tension is CRITICAL to the production of high quality product. The following is a chart of recommended wire tension, by wire size. Typically, you will use a value equal to 50 to 80% of the maximum recommended tension to ensure that the magnet wire is not elongated during the winding process damaging the wire due to elongation.

Wire Size AWG	Bare Inch	Diameter MM	Max. Lbs. Tension		Wire Size AWG	Bare Inch	Diameter MM	Max. Lbs. Tension
1	.2893	7.85	750.0		23	.0226	.574	4.0
2	.2576	6.54	650.0		24	.0201	.511	3.2
3	.2294	5.82	500.0		25	.0179	.455	2.5
4	.2043	5.189	380.0		26	.0159	.404	2.0
5	.1819	4.620	300.0		27	.0142	.361	1.6
6	.1620	4.115	210.0		28	.0126	.320	1.2
7	.1445	3.665	170.0		29	.0113	.287	1.0
8	.1285	3.264	130.0		30	.0100	.254	0.785
9	.1144	2.906	103.0		31	.0089	.226	0.622
10	.1019	2.588	82.0		32	.0080	.203	0.503
11	.0907	2.304	65.0		33	.0071	.180	0.396
12	.0808	2.052	51.0		34	.0063	.160	0.312
13	.0720	1.829	41.0		35	.0056	.142	0.246
14	.0641	1.628	32.0		36	.0050	.127	0.196
15	.0571	1.450	26.0		37	.0045	.114	0.159
16	.0508	1.290	20.0		38	.0040	.102	0.126
17	.0453	1.151	16.0		39	.0035	.089	0.096
18	.0403	1.024	13.0		40	.0031	.079	0.075
19	.0359	.912	10.0		41	.0028	.071	0.062
20	.0320	.813	8.0		42	.0025	.064	0.049
21	.0285	.724	6.4		43	.0022	.056	0.038
22	.0253	.643	5.0		44	.0020	.046	0.023