Recommended Winding Tensions

Below are recommended winding tension for round magnet wire with Copper and Aluminum conductors. They are strictly recommendations and it is suggested that you use your own validation tests to ensure that the wire is not stretched during your production process.

RECOMMENDED WINDING TENSIONS FOR ROUND COPPER AND ALUMINUM CONDUCTORS									
COPPER					ALUMINUM				
SIZE (AWG)	MINIMUM		MAXIMUM		MINIMUM		MAXIMUM		SIZE (AWG)
	lbs	kg	lbs	kg	lbs	kg	lbs	kg	
10	61	28	82	37	12	6	22	10	10
11	48	22	65	29	10	4	18	8	11
12	38	17	51	23	8	3	14	6	12
13	31	14	41	18	6	3	11	5	13
14	24	11	32	15	5	2	9	4	14
15	19	8.7	26	12	4	2	7	3	15
16	15	6.9	20	9.2	3	1	6	3	16
17	12	5.5	16	7.3	2	1	4	2	17
18	10	4.3	13	5.8	2	1	4	2	18
19	8	3.4	10	4.6	2	1	3	1	19
20	6	2.7	8	3.6	1.3	0.6	2	1	20
21	5	2.2	6	2.9	1.0	0.3	1.8	0.8	21
22	4	1.7	5	2.3	0.8	0.3	1.4	0.6	22
23	3	1.4	4	1.8	0.6	0.3	1.1	0.5	23
24	2	1.1	3	1.0	0.5	0.2	0.9	0.4	24
25	2	0.9	3	1.1	0.4	0.2	0.7	0.3	25
26	1	0.7	2	0.9	0.3	0.1	0.5	0.2	26
27	1	0.5	2	0.7	0.2	0.1	0.4	0.2	27
SIZE (AWG)	MINIMUM		MAXIMUM		MINIMUM		MAXIMUM		SIZE (AWG)
	oz	g	oz	g	oz	g	oz	g	
28	15	425	20	565	3	85	6	160	28
29	12	340	16	455	2.5	68	4.5	125	29
30	9	270	13	360	2	54	3.5	99	30
31	7	210	10	280	1.5	42	2.8	78	31
32	6	170	8	290	1.2	34	2.2	63	32
33	5	135	6	180	0.95	27	1.75	49	33
34	4	105	5	140	0.75	21	1.40	39	34
35	3	85	4	110	0.60	17	1.10	31	35
36	2	65	3	90	0.45	13	0.85	24	36
37	2	55	3	70	0.38	11	0.71	20	37
38	2	45	2	55	0.29	8.6	0.56	16	38
39	1.2	35	1.5	45	0.23	6.5	0.42	12	39
40	0.9	25	1.2	35	0.18	5.1	0.33	9	40
41	0.7	20	1.0	28	0.15	4.2	0.27	7.7	41
42	0.6	17	0.8	22	0.12	3.3	0.22	6.1	42
43	0.5	13	0.6	17	0.09	2.6	0.17	4.7	43
44	0.4	10	0.5	13	0.07	2.1	0.14	3.9	44

Maximum value above based on yield strength of fully annealed copper wire.

Winding tensions higher than the stated maximums may cause higher resistance values.