



SPM POWER BOND RIBBON™

Bonding of power devices is experiencing a rapid transition to aluminum ribbon for many reasons. Better electrical characteristics, improved heat dissipation, fewer bonds, improved throughput and reliability are some of the most obvious advantages.

SPM has developed SPM Power Bond Ribbon™, a high purity corrosion resistant aluminum bonding ribbon, to meet this demand.

Using SPM Power Bond Ribbon™ eliminates the need for multiple wire bonds. The current required with two, three and even four bonds to the same device can now be attained with the properly selected ribbon. To determine the ribbon size needed, use this formula:

$$(T)(W) = (N) (D^2) (0.785)$$

T = thickness of ribbon
 W = width of ribbon
 N = number of wire bonds
 D = diameter of wire

Select a width and the required thickness can be determined.

EQUIVALENT NUMBER OF WIRES TO RIBBON CONVERSION

Ribbon size (mils)	Wire diameter (mils)					
	5	8	10	12	15	20
30 x 3	4.58	1.79	1.15			
40 x 4	8.15	3.18	2.04	1.41		
50 x 5	12.73	4.97	3.18	2.21	1.41	
40 x 6	12.22	4.77	3.06	2.12	1.36	
60 x 6	18.33	7.16	4.58	3.18	2.04	1.15
80 x 6	24.45	9.55	6.11	4.24	2.72	1.53
50 x 8	20.37	7.96	5.09	3.54	2.26	1.27
60 x 8	24.45	9.55	6.11	4.24	2.72	1.53
80 x 8	32.59	12.73	8.15	5.66	3.62	2.04
60 x 10	30.56	11.94	7.64	5.31	3.40	1.91
80 x 10	40.74	15.92	10.19	7.07	4.53	2.55

► Standard Sizes

There are five standard widths of ribbon. They are: 0.030, 0.040, 0.050, 0.060, and 0.080. Other widths can be made available for specific applications.



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MECHANICAL PROPERTIES

These tensile and elongation figures are for reference only. Tighter ranges within the parameters listed are available as required

Size	Tensile (grams)	% Elongation	Length/41R Spool
0.030 x 0.003	250 – 350	15 – 25	125 MTRS
0.040 x 0.004	500 – 750	20 – 25	90 MTRS
0.050 x 0.005	1000 – 1500	20 – 35	80 MTRS
0.040 x 0.006	700 – 1100	20 – 35	70 MTRS
0.060 x 0.006	1300 – 1700	20 – 35	70 MTRS
0.080 x 0.006	1800 – 2200	20 – 35	70 MTRS
0.050 x 0.008	1200 – 1600	20 – 35	55 MTRS
0.060 x 0.008	2000 – 2500	20 – 35	55 MTRS
0.080 x 0.008	2300 – 2800	20 – 35	55 MTRS
0.060 x 0.010	2200 – 2600	25 – 40	38 MTRS
0.080 x 0.010	2700 – 3400	25 – 40	38 MTRS

► Spooling

SPM has designed spools specifically for the demands of SPM Power Bond Ribbon™. The spool type is designated as 41R and is a foil feed type of spool slightly wider than the ribbon width. The 41R spool is fully compatible with all bonding machines configured for standard 41B heavy wire spools. The use of this spool eliminates the chance of the ribbon underwinding and potential despooling issues.

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