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Engineering Data

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The following table gives typical results on seven different block sizes and six wire sizes at varying tensions and breakover angles. These were selected from 304 individual tests and represent the maximum wattages in each group of tests.

Test	Block Size, Inches	Line Tension, Pounds	Load on Block, Pounds	Break-over* Angle, Degrees	Conductor Size			I** Amperage	V _b ** Voltage	R _b ** Ohms	
					Cir. Mills	Stranding					
						Aluminum	Steel				O.D.
1-A	35	6,000	3,600	35	2,157,400	61	—	1.65	5.00	7.535	1.507
1-B	35	8,000	4,800	35	2,157,400	61	—	1.65	5.00	6.904	1.381
1-C	35	10,000	6,000	35	2,157,400	61	—	1.65	5.00	6.351	1.270
1-D	35	6,000	,940	9	2,157,400	61	—	1.65	5.00	14.912	3.030
1-E	35	8,000	1,260	9	2,157,400	61	—	1.65	5.00	14.728	2.946
4-A	28	6,000	3,600	35	1,780,000	84	19	1.602	5.00	11.307	2.261
4-B	28	8,000	4,800	35	1,780,000	84	19	1.602	5.00	11.131	2.261
4-C	28	10,000	6,000	35	1,780,000	84	19	1.602	4.93	10.437	2.117
4-D	28	6,000	2,290	22	1,780,000	84	19	1.602	5.00	16.044	3.209
4-E	28	10,000	3,820	22	1,780,000	84	19	1.602	5.00	13.973	2.794
4-F	28	6,000	,940	9	1,780,000	84	19	1.602	5.00	18.236	3.647
4-G	28	10,000	1,570	9	1,780,000	84	19	1.602	5.00	16.921	3.384
6-A	20	6,000	3,600	35	1,431,000	45	7	1.427	5.00	26.483	5.297
6-B	20	10,000	6,000	35	1,431,000	45	7	1.427	5.00	22.973	4.595
6-C	20	6,000	2,290	22	1,431,000	45	7	1.427	5.00	38.236	7.647
6-D	20	10,000	3,820	22	1,431,000	45	7	1.427	5.00	31.570	6.314
6-E	20	6,000	,940	9	1,431,000	45	7	1.427	5.00	43.763	8.572
6-F	20	10,000	1,570	9	1,431,000	45	7	1.427	5.00	37.622	7.524
5-A	16	5,000	3,000	35	1,272,000	45	7	1.345	5.00	25.342	5.068
5-B	16	9,000	5,400	35	1,272,000	45	7	1.345	5.00	22.535	4.507
5-C	16	5,000	1,905	22	1,272,000	45	7	1.345	5.00	29.728	5.946
5-D	16	9,000	3,430	22	1,272,000	45	7	1.345	5.00	25.342	5.068
5-E	16	5,000	,785	9	1,272,000	45	7	1.345	4.00	27.993	6.998
5-F	16	9,000	1,415	35	1,272,000	45	7	1.345	4.00	26.150	6.538
8-A	12	3,000	1,800	35	795,000	26	7	1.108	2.50	26.486	10.594
8-B	12	7,000	4,200	35	795,000	26	7	1.108	2.00	25.974	12.987
8-C	12	3,000	1,140	22	795,000	26	7	1.108	2.00	25.447	12.723
8-D	12	7,000	2,770	22	795,000	26	7	1.108	2.00	26.763	13.381
8-E	12	3,000	,470	9	795,000	26	7	1.108	1.00	28.213	28.213
7-A	10	1,000	,600	35	336,400	26	7	.721	5.00	28.412	5.682
7-B	10	3,000	1,800	35	336,400	26	7	.721	4.00	24.308	6.077
7-C	10	1,000	,380	22	336,400	26	7	.721	3.00	29.064	9.688
7-D	10	3,000	1,140	22	336,400	26	7	.721	3.00	23.539	7.846
7-E	10	1,000	,160	9	336,400	26	7	.721	2.50	29.995	11.998
7-F	10	3,000	,470	9	336,400	26	7	.721	2.50	24.732	9.893
2-A	7	1,000	,600	35	336,400	26	7	.721	5.00	30.780	6.156
2-B	7	2,000	1,200	35	336,400	26	7	.721	5.00	25.780	5.156
2-C	7	3,000	1,800	35	336,400	26	7	.721	5.00	24.728	4.946
2-D	7	1,000	,100	9	336,400	26	7	.721	2.00	26.061	13.030
2-E	7	2,000	,314	9	336,400	26	7	.721	2.00	23.868	11.934
2-F	7	3,000	,470	9	336,400	26	7	.721	2.00	23.781	11.891

*Breakover angle is the sum of the angles on both sides of block taken from horizontal to angle of wire.

**See example of calculation on opposite page.