CONDUCTOR

INTRODUCTION

1. In order to ensure safety, certain minimum clearances shall be maintained between various circuits of an overhead distribution system. Proper clearances from joint-use utilities, railroads, buildings, and other objects shall always be maintained. The standard adopted by JEA is the National Electric Safety Code.

2. Table 232-1 and Footnotes contained in this section reprinted with permission from Table 232-1, "Vertical Clearance of Wires, Conductors, and Cables Above Ground, Roadway, Rail, or Water Surfaces" Copyright © 2006 IEEE All Rights Reserved, published in the 2007 National Electric Safety Code (NESC); this table references Rules 232B1, 232C1a, and 232D4; Copyright © 2006 IEEE All Rights Reserved, by IEEE. The IEEE disclaims any responsibility or liability resulting from the placement and use in the described manner.

3. The information given by the following table and its footnotes are intended to cover the most common situations. If site conditions arise which are not covered in this section, refer to Section 23 of the 2007 NESC for more specific information.

4. For more detailed information concerning the types of conductors used by JEA, the associated connectors and splices, and various other conductor related material, refer to the Master Material Catalog.

5. Transition spans from vertical construction to horizontal construction or the reverse shall be limited to 200 feet.

6. Sag & Tension data is provided for the various size conductors used by JEA. The most common temperatures and ruling spans were used for the tables, but other criteria may be provided if requested. The data in the tables were calculated by Alcoa's SAG 10 software, with certain assumed values for variables based upon the geographical location, temperature, and wind speed.

2007 NESC TABLE 232-1

ft

Table 232-1
Vertical Clearance of Wires, Conductors, and Cables Above Ground, Roadway, Rail, or Water Surfaces[25]

(Voltages are phase to ground for effectively grounded circuits and those other circuits where all ground faults are cleared by promptly de-energizing the faulted section, both initially and following subsequent breaker operations. See the definitions section for voltages of other systems.
See Rules 232B1, 232C1a, and 232D4.)

Nature of surface underneath wires, conductors, or cables	Insulated communication conductors and cable; messengers; overhead shield/surge-protection wires; grounded guys; ungrounded guys exposed to 0 to 300 V[11, 15]; neutral conductors meeting Rule 230E1; supply cables meeting Rule 230C1 (ft)	Noninsulated communication conductors; supply cables of 0 to 750 V meeting Rules 230C2 or 230C3 (ft)	Supply cables over 750 V meeting Rules 230C2 or 230C3; open supply conductors, 0 to 750 V[3]; ungrounded guys exposed to over 300 V to 750 V[14](ft)	Open supply conductors, over 750 V to 22 kV; ungrounded guys exposed to 750 V to 22 kV[14] (ft)	Trolley and electrified railroad contact conductors and associated span or messenger wires	
					0 to 750 V to ground (ft)	Over 750 V to 22 kV to ground (ft)
Where wires, conductors, or cables cross over or overhang						
1. Track rails of railroads (except electrified railroads using overhead trolley conductors)[2, 16]	23.5	24.0	24.5	26.5	22.0[4]	22.0[4]
2. Roads, streets, and other areas subject to truck traffic [23]	15.5	16.0	16.5	18.5	18.0[5]	20.0[5]
3. Driveways, parking lots, and alleys[23]	15.5[7,13]	16.0[7,13]	16.5[7]	18.5	18.0[5]	20.0[5]
4. Other land traversed by vehicles, such as cultivated, grazing, forest, orchards, etc. [26]	15.5	16.0	16.5	18.5	–	–
5. Spaces and ways subject to pedestrians or restricted traffic only [9]	9.5	12.0[8]	12.5[8]	14.5	16.0	18.0
6. Water areas not suitable for sailboating or where sailboating is prohibited[21]	14.0	14.5	15.0	17.0	–	–

2007 NESC TABLE 232-1 – CONTINUED

ft

Table 232-1 (Continued)
Vertical Clearance of Wires, Conductors, and Cables Above Ground, Roadway, Rail, or Water Surfaces25

(Voltages are phase to ground for effectively grounded circuits and those other circuits where all ground faults are cleared by promptly de-energizing the faulted section, both initially and following subsequent breaker operations. See the definitions section for voltages of other systems.
See Rules 232B1, 232C1a, and 232D4.)

Nature of surface underneath wires, conductors, or cables	Insulated communication conductors and cable; messengers; surge-protection wires; grounded guys; ungrounded guys exposed to 0 to 300V 11,15; neutral conductors meeting Rule 230E1; supply cables meeting Rule 230C1 (ft)	Noninsulated communication conductors; supply cables of 0 to 750 V meeting Rules 230C2 or 230C3 (ft)	Supply cables over 750 V meeting Rules 230C2 or 230C3; open supply conductors, 0 to 750 V; ungrounded guys exposed to over 300 V to 750 V 14 (ft)	Open supply conductors, over 750 V to 22 kV; ungrounded guys exposed to 750 V to 22kV 14 (ft)	Trolley and electrified railroad contact conductors and associated span or messenger wires	
					0 to 750 V to ground (ft)	Over 750 V to 22 kV to ground (ft)
7. Water areas suitable for sailboating including lakes, ponds, reservoirs, tidal waters, rivers, streams, and canals with an unobstructed surface area of [7, 18, 19, 20, 21]						
Less than 20 acres	17.5	18.0	18.5	20.5	–	–
Over 20 to 200 acres	25.5	26.0	26.5	28.5	–	–
Over 200 to 2000 acres	31.5	32.0	32.5	34.5	–	–
Over 2000 acres	37.5	38.0	38.5	40.5	–	–
8. Established boat ramps and associated rigging areas; areas posted with sign(s) for rigging or launching sail boats	Clearance above ground shall be 5 ft greater than in 7 above, for the type of water areas served by the launching site					
Where wires, conductors, or cables run along and within the limits of highways or other road rights-of-way but do not overhang the roadway						
9. Roads, streets, or alleys	15.5[24]	16.0	16.5	18.5	18.0[5]	20.0[5]
10. Roads where it is unlikely that vehicles will be crossing under the line	13.5[10,12]	14.0[10]	14.5[10]	16.5	18.0[5]	20.0[5]

2007 NESC TABLE 232-1 (FOOTNOTES)

[1]Where subways, tunnels, or bridges require it, less clearance above ground or rails than required by Table 232-1 may be used locally. The trolley and electrified railroad contact conductor should be graded very gradually from the regular construction down to the reduced elevation.

[2]For wires, conductors, or cables crossing over mine, logging, and similar railways that handle only cars lower than standard freight cars, the clearance may be reduced by an amount equal to the difference in height between the highest loaded car handled and 20 ft, but the clearance shall not be reduced below that required for street crossings.

[3]Does not include neutral conductors meeting Rule 230E1

[4]In communities where 21 ft has been established, this clearance may be continued if carefully maintained. The elevation of the contact conductor should be the same in the crossing and next adjacent spans. (See Rule 225D2 for conditions that must be met where uniform height above rail is impractical.)

[5]In communities where 16 ft has been established for trolley and electrified railroad contact conductors 0 to 750 V to ground, or 18 ft for trolley and electrified railroad contact conductors exceeding 750 V, or where local conditions make it impractical to obtain the clearance given in the table, these reduced clearances may be used if carefully maintained.

[6]This footnote not used in this edition.

[7]Where the height of a residential building does not permit its service drop(s) to meet these values, the clearances over residential driveways only may be reduced to the following:

		(feet)
a)	Insulated supply service drops limited to 300 V to ground	12.5
b)	Insulated drip loops of supply service drops limited to 300 V to ground	10.5
c)	Supply service drops limited to 150 V to ground and meeting Rules 230C1 or 230C3	12.0
d)	Drip loops only of service drops limited to 150 V to ground and meeting Rules 230C1 or 230C3	10.0
e)	Insulated communication service drops	11.5

[7]Where the height of a residential building does not permit its service drop(s) to meet these values, the clearances may be reduced to the following:

		(feet)
a)	Insulated supply service drops limited to 300 V to ground	10.5
b)	Insulated drip loops of supply service drops limited to 300 V to ground	10.5
c)	Supply service drops limited to 150 V to ground and meeting Rules 230C1 or 230C3	10.0
d)	Drip loops only of supply service drops limited to 150 V to ground and meeting Rules 230C1 or 230C3	10.0

[9]Spaces and ways subject to pedestrians or restricted traffic only are those areas where riders on horses or other large animals, vehicles, or other mobile units exceeding a total height of 8 ft are prohibited by regulation or permanent terrain configurations, or are otherwise not normally encountered nor reasonably anticipated.

[10]Where a supply or communication line along a road is located relative to fences, ditches, embankments, etc., so that the ground under the line would not be expected to be traveled except by pedestrians, the clearances may be reduced to the following values:

		(feet)
1)	Insulated communication conductor and communication cables.	9.5
2)	Conductors of other communication circuits	9.5
3)	Supply cables of any voltage meeting Rule 230C1, supply cables limited to 150 V to ground meeting Rules 230C2 or 230C3, and neutral conductors meeting Rule 230E1	9.5
4)	Insulated supply conductors limited to 300 V to ground	12.5
5)	Guys	9.5

From Table 232-1. Vertical Clearance of Wires, Conductors, and Cables Above Ground, Roadway, Rail, or Water Surfaces, published in the 2007 National Electrical Safety Code (NESC);

2007 NESC TABLE 232-1 (FOOTNOTES) – CONTINUED

[11]No clearance from ground is required for anchor guys not crossing tracks, rails, streets, driveways, roads or pathways.

[12]This clearance may be reduced to 13 ft for communication conductors and guys.

[13]Where this construction crosses over or runs along alleys, driveways, or parking lots not subject to truck traffic this clearance may be reduced to 15 ft.

[14]Ungrounded guys and ungrounded portions of span guys between guy insulators shall have clearances based on the highest voltage to which they may be exposed due to a slack conductor or guy.

[15]Anchor guys insulated in accordance with Rule 279 may have the same clearance as grounded guys.

[16]Adjacent to tunnels and overhead bridges that restrict the height of loaded rail cars to less than 20 ft, these clearances may be reduced by the difference between the highest loaded rail car handled and 20 ft, if mutually agreed to by the parties at interest.

[17]For controlled impoundments, the surface area and corresponding clearances shall be based upon the design high-water level.

[18]For uncontrolled water flow areas, the surface area shall be that enclosed by its annual high-water mark. Clearances shall be based on the normal flood level; if available, the 10-year flood level may be assumed as the normal flood level.

[19]The clearance over rivers, streams, and canals shall be based upon the largest surface area of any 1-mi-long segment that includes the crossing. The clearance over a canal, river, or stream normally used to provide access for sailboats to a larger body of water shall be the same as that required for the larger body of water.

[20]Where an overwater obstruction restricts vessel height to less than the applicable reference height given in Table 232-3, the required clearance may be reduced by the difference between the reference height and the overwater obstruction height, except that the reduced clearance shall be not less than that required for the surface area on the line-crossing side of the obstruction.

[21]Where the US Army Corps of Engineers, or the state, or surrogate thereof has issued a crossing permit, clearances of that permit shall govern.

[22]See Rule 234I for the required horizontal and diagonal clearances to rail cars.

[23]For the purpose of this Rule, trucks are defined as any vehicle exceeding 8 ft in height. Areas not subject to truck traffic are areas where truck traffic is not normally encountered nor reasonably anticipated.

[24]Communication cables and conductors may have a clearance of 15 ft where poles are back of curbs or other deterrents to vehicular traffic.

[25]The clearance values shown in this table are computed by adding the applicable Mechanical and Electrical (M&E) value of Table A-1 to the applicable Reference Component of Table A-2a of Appendix A.

[26]When designing a line to accommodate oversized vehicles, these clearance values shall be increased by the difference between the known height of the oversized vehicle and 14 ft.

SAG & TENSION NOTES

1) The first row in each sag chart is a Light Loading condition based on 9 lb/ft².

2) * This is the tension limit that became the limiting factor in this design.

3) For clearance calculations, the final sag at 200°F should be used.

4) The limits on conductor tensions per the 2007 NESC are as follows:

1. In the light loading district, the conductor's initial tensions shall not exceed 60 percent of its rated breaking strength at 30°F without ice and with a horizontal wind pressure of 9 lb/ft² (59 mph wind).

2. In all districts, the conductor's initial tension at 60°F without ice and wind shall not exceed 35 percent of the rated breaking strength.

3. In all districts, the conductor's final tension at 60°F without ice and wind shall not exceed 25 percent of the rated breaking strength.

However, the following tables are bound by the Alcoa design limits which are more stringent than the standard NESC limits:

1. In the light loading district, the conductor's initial tensions shall not exceed **50** percent of its rated breaking strength at 30°F without ice and and with a horizontal wind pressure of 9 lb/ft² (59 mph wind).

2. In all districts, the conductor's initial tension at **30**°F without ice and wind shall not exceed **33** percent of the rated breaking strength.

3. In all districts, the conductor's final tension at **30**°F without ice and wind shall not exceed 25 percent of the rated breaking strength.

SAG & TENSION DATA

Bare Aluminum Conductor, Steel Reinforced - 556 Parakeet 24/7 strand
Rated Breaking Strength: 19,800 lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6639	0.44	4927	0.59
30	6593*	0.31	4817	0.42
35	6402	0.31	4548	0.44
40	6209	0.32	4282	0.47
45	6012	0.34	4018	0.50
50	5814	0.35	3759	0.54
55	5613	0.36	3504	0.58
60	5410	0.37	3254	0.62
65	5204	0.39	3012	0.67
70	4997	0.40	2779	0.73
75	4788	0.42	2556	0.79
80	4577	0.44	2347	0.86
85	4365	0.46	2151	0.94
90	4151	0.49	1973	1.02
95	3936	0.51	1811	1.11
200	1122	1.80	1106	1.52

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6673	0.78	4977	1.05
30	6593*	0.54	4791	0.75
35	6404	0.56	4532	0.79
40	6213	0.58	4277	0.84
45	6019	0.60	4026	0.89
50	5823	0.62	3781	0.95
55	5626	0.64	3543	1.01
60	5426	0.66	3312	1.08
65	5225	0.69	3091	1.16
70	5022	0.71	2880	1.24
75	4818	0.74	2681	1.34
80	4614	0.78	2496	1.44
85	4408	0.81	2324	1.54
90	4203	0.85	2167	1.66
95	3997	0.90	2024	1.77
200	1306	2.75	1289	2.78

SAG & TENSION DATA

Bare Aluminum Conductor, Steel Reinforced - 556 Parakeet 24/7 strand
Rated Breaking Strength: 19,800 lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6715	1.21	5041	1.62
30	6593*	0.85	4767	1.18
35	6407	0.87	4520	1.24
40	6218	0.90	4278	1.31
45	6027	0.93	4042	1.39
50	5835	0.96	3813	1.47
55	5641	0.99	3592	1.56
60	5446	1.03	3380	1.66
65	5250	1.07	3178	1.76
70	505	1.11	2988	1.88
75	4856	1.15	2809	1.99
80	4658	1.20	2642	2.12
85	4460	1.26	2489	2.25
90	4264	1.31	2347	2.39
95	4069	1.38	2218	2.53
200	1476	3.80	1456	3.85

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6764	1.73	5115	2.29
30	6593*	1.22	4748	1.70
35	6410	1.26	4514	1.79
40	6224	1.30	4286	1.88
45	6037	1.34	4066	1.98
50	5849	1.38	3853	2.09
55	5660	1.43	3649	2.21
60	5470	1.47	3455	2.34
65	5279	1.53	3270	2.47
70	5089	1.59	3097	2.61
75	4898	1.65	2935	2.75
80	4708	1.71	2784	2.90
85	4519	1.79	2643	3.05
90	4332	1.86	2514	3.21
95	4146	1.95	2395	3.37
200	1675	4.82	1612	5.01

SAG & TENSION DATA

Bare Aluminum Conductor, Steel Reinforced - 556 Parakeet 24/7 strand
Rated Breaking Strength: 19,800 lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6818	2.34	5198	3.07
30	6593*	1.67	4737	2.32
35	6413	1.71	4516	2.43
40	6231	1.76	4303	2.55
45	6048	1.82	4097	2.68
50	5865	1.87	3900	2.82
55	5681	1.93	3712	2.96
60	5496	2.00	3533	3.11
65	5312	2.07	3364	3.26
70	5128	2.14	3206	3.43
75	4944	2.22	3057	3.59
80	4762	2.31	2918	3.76
85	4582	2.40	2789	3.94
90	4403	2.49	2669	4.12
95	4228	2.60	2558	4.29
200	1879	5.85	1757	6.26

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6876	3.03	5288	3.94
30	6593*	2.18	4733	3.03
35	6417	2.24	4526	3.17
40	6239	2.30	4327	3.32
45	6061	2.37	4136	3.47
50	5882	2.44	3953	3.63
55	5703	2.51	3779	3.80
60	5525	2.60	3614	3.97
65	5346	2.68	3459	4.15
70	5169	2.77	3312	4.33
75	4993	2.87	3175	4.52
80	4819	2.98	3046	4.71
85	4647	3.09	2926	4.90
90	4478	3.20	2815	5.10
95	4312	3.33	2710	5.30
200	2069	6.94	1895	7.58

SAG & TENSION DATA

Bare Aluminum Conductor, Steel Reinforced - 556 Parakeet 24/7 strand
Rated Breaking Strength: 19,800 lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6938	3.80	5382	4.90
30	6593*	2.75	4738	3.83
35	6421	2.83	4544	4.00
40	6247	2.91	4358	4.17
45	6074	2.99	4180	4.34
50	5900	3.08	4010	4.53
55	5727	3.17	3849	4.72
60	5555	3.27	3696	4.91
65	5383	3.37	3552	5.11
70	5213	3.48	3416	5.32
75	5044	3.60	3289	5.52
80	4878	3.72	3169	5.73
85	4714	3.85	3056	5.94
90	4553	3.99	2951	6.16
95	4395	4.13	2853	6.37
200	2249	8.08	2025	8.98

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	7002	4.65	5479	5.95
30	6593*	3.40	4749	4.72
35	6425	3.49	4568	4.91
40	6256	3.58	4394	5.10
45	6088	3.68	4228	5.30
50	5920	3.79	4070	5.51
55	5752	3.90	3920	5.72
60	5586	4.01	3778	5.93
65	5421	4.14	3644	6.15
70	5257	4.26	3517	6.38
75	5096	4.40	3398	6.60
80	4937	4.54	3285	6.83
85	4781	4.69	3179	7.05
90	4628	4.84	3080	7.28
95	4478	5.01	2986	7.51
200	2418	9.28	2149	10.45

SAG & TENSION DATA

Bare Aluminum Conductor, Steel Reinforced - 556 Parakeet 24/7 strand
Rated Breaking Strength: 19,800 lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	7067	5.58	5577	7.07
30	6593*	4.11	4767	5.69
35	6429	4.22	4597	5.90
40	6266	4.33	4435	6.12
45	6102	4.44	4280	6.34
50	5940	4.57	4133	6.57
55	5778	4.69	3992	6.80
60	5618	4.83	3860	7.03
65	5459	4.97	3734	7.27
70	5302	5.12	3615	7.51
75	5148	5.27	3503	7.75
80	4996	5.43	3396	7.99
85	4847	5.60	3296	8.23
90	4702	5.77	3202	8.48
95	4560	5.95	3113	8.72
200	2579	10.53	2267	11.99

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	7134	6.58	5676	8.27
30	6593*	4.90	4789	6.74
35	6434	5.02	4630	6.97
40	6275	5.14	4479	7.21
45	6117	5.28	4334	7.45
50	5960	5.42	4196	7.70
55	5804	5.56	4064	7.95
60	5650	5.71	3940	8.20
65	5498	5.87	3821	8.45
70	5347	6.04	3709	8.71
75	5200	6.21	3603	8.97
80	5055	6.39	3503	9.22
85	4913	6.57	3408	9.48
90	4774	6.76	3317	9.74
95	4639	6.96	3232	10.00
200	2731	11.84	2380	13.60

SAG & TENSION DATA

All Aluminum Conductor - 636 Orchid, 37 strand

Rated Breaking Strength: 11,400 lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3893	0.69	3015	0.90
30	3796*	0.44	2795	0.60
35	3619	0.46	2561	0.66
40	3440	0.49	2336	0.72
45	3260	0.52	2122	0.79
50	3079	0.55	1921	0.87
55	2897	0.58	1737	0.97
60	2715	0.62	1572	1.07
65	2534	0.66	1426	1.18
70	2355	0.71	1299	1.29
75	2180	0.77	1190	1.41
80	2010	0.84	1097	1.53
85	1847	0.91	1017	1.65
90	1693	0.99	950	1.77
95	1550	1.08	891	1.89
200	529	3.18	450	3.74

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3958	1.21	3070	1.57
30	3796*	0.79	2721	1.10
35	3624	0.82	2511	1.19
40	3451	0.87	2313	1.29
45	3278	0.91	2129	1.40
50	3104	0.96	1960	1.52
55	2932	1.02	1806	1.65
60	2761	1.08	1669	1.79
65	2592	1.15	1547	1.93
70	2428	1.23	1440	2.07
75	2268	1.32	1346	2.22
80	2115	1.41	1263	2.36
85	1971	1.52	1191	2.51
90	1835	1.63	1127	2.65
95	1709	1.75	1071	2.79
200	688	4.35	585	5.12

SAG & TENSION DATA

All Aluminum Conductor - 636 Orchid, 37 strand

Rated Breaking Strength: 11,400 lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	4032	1.86	3147	2.39
30	3796*	1.23	2672	1.75
35	3630	1.29	2488	1.88
40	3464	1.35	2316	2.01
45	3298	1.41	2158	2.16
50	3134	1.49	2014	2.32
55	2971	1.57	1883	2.48
60	2812	1.66	1766	2.64
65	2656	1.76	1661	2.81
70	2505	1.86	1567	2.98
75	2360	1.98	1483	3.15
80	2221	2.10	1408	3.31
85	2091	2.23	1341	3.48
90	1969	2.37	1281	3.64
95	1855	2.52	1227	3.81
200	839	5.57	713	6.57

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	4111	2.63	3237	3.34
30	3796*	1.77	2648	2.54
35	3637	1.85	2487	2.70
40	3478	1.93	2338	2.87
45	3321	2.02	2201	3.05
50	3165	2.12	2076	3.24
55	3013	2.23	1963	3.42
60	2865	2.35	1860	3.61
65	2721	2.47	1767	3.80
70	2582	2.60	1683	3.99
75	2449	2.74	1607	4.18
80	2323	2.89	1538	4.37
85	2204	3.05	1476	4.56
90	2093	3.21	1419	4.74
95	1989	3.38	1367	4.92
200	982	6.86	834	8.09

SAG & TENSION DATA

All Aluminum Conductor - 636 Orchid, 37 strand
Rated Breaking Strength: 11,400 lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	4193	3.51	3334	4.42
30	3796*	2.41	2644	3.46
35	3644	2.51	2503	3.65
40	3493	2.62	2372	3.86
45	3344	2.73	2252	4.06
50	3198	2.86	2142	4.27
55	3056	2.99	2042	4.48
60	2918	3.13	1950	4.69
65	2785	3.28	1866	4.90
70	2657	3.44	1790	5.11
75	2535	3.61	1720	5.32
80	2419	3.78	1656	5.53
85	2310	3.96	1597	5.73
90	2207	4.14	1543	5.93
95	2111	4.33	1493	6.13
200	1118	8.20	949	9.67

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	4276	4.50	3433	5.61
30	3796*	3.15	2654	4.50
35	3651	3.27	2529	4.72
40	3508	3.40	2414	4.95
45	3368	3.55	2307	5.18
50	3232	3.70	2209	5.41
55	3099	3.85	2119	5.64
60	2971	4.02	2036	5.87
65	2847	4.20	1959	6.10
70	2729	4.38	1889	6.33
75	2616	4.57	1824	6.56
80	2509	4.76	1764	6.78
85	2408	4.96	1708	7.00
90	2313	5.17	1657	7.22
95	2223	5.38	1609	7.43
200	1246	9.61	1059	11.32

SAG & TENSION DATA
All Aluminum Conductor - 636 Orchid, 37 strand
Rated Breaking Strength: 11,400 lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	4357	5.59	3533	6.90
30	3796*	3.98	2673	5.66
35	3659	4.13	2562	5.90
40	3524	4.29	2459	6.15
45	3392	4.46	2363	6.40
50	3264	4.63	2275	6.65
55	3141	4.81	2193	6.90
60	3021	5.01	2117	7.15
65	2906	5.20	2046	7.40
70	2796	5.41	1981	7.64
75	2692	5.62	1920	7.88
80	2593	5.83	1864	8.12
85	2499	6.05	1811	8.36
90	2410	6.28	1762	8.59
95	2326	6.50	1716	8.83
200	1368	11.08	1164	13.05

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	4437	6.78	3630	8.29
30	3796*	4.92	2699	6.92
35	3666	5.09	2599	7.19
40	3539	5.27	2506	7.45
45	3416	5.47	2419	7.72
50	3296	5.66	2338	7.99
55	3180	5.87	2263	8.26
60	3069	6.08	2193	8.52
65	2962	6.30	2128	8.78
70	2860	6.53	2067	9.04
75	2763	6.76	2010	9.30
80	2670	6.99	1956	9.56
85	2582	7.23	1906	9.81
90	2499	7.47	1859	10.06
95	2420	7.72	1815	10.30
200	1483	12.63	1263	14.84

SAG & TENSION DATA
All Aluminum Conductor - 636 Orchid, 37 strand
Rated Breaking Strength: 11,400 lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	4513	8.06	3725	9.77
30	3796*	5.95	2729	8.28
35	3674	6.15	2638	8.57
40	3554	6.36	2553	8.85
45	3439	6.57	2474	9.14
50	3326	6.79	2400	9.42
55	3218	7.02	2330	9.70
60	3114	7.25	2265	9.98
65	3015	7.50	2204	10.26
70	2919	7.74	2147	10.53
75	2829	7.99	2093	10.81
80	2742	8.24	2042	11.08
85	2659	8.50	1995	11.34
90	2581	8.76	1949	11.61
95	2507	9.02	1907	11.87
200	1592	14.23	1359	16.70

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	4587	9.44	3817	11.36
30	3796*	7.08	2761	9.74
35	3681	7.30	2678	10.05
40	3569	7.53	2600	10.35
45	3460	7.77	2527	10.65
50	3355	8.01	2459	10.95
55	3254	8.26	2394	11.24
60	3157	8.52	2333	11.54
65	3064	8.78	2276	11.83
70	2975	9.04	2222	12.12
75	2890	9.31	2171	12.40
80	2808	9.58	2123	12.68
85	2731	9.85	2077	12.96
90	2657	10.13	2034	13.24
95	2587	10.40	1993	13.52
200	1695	15.91	1449	18.63

SAG & TENSION DATA

All Aluminum Conductor - 336 Tulip, 19 strand

Rated Breaking Strength: 6150 lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2147	0.84	1605	1.12
30	2048*	0.43	1371	0.65
35	1946	0.46	1245	0.71
40	1844	0.48	1126	0.79
45	1741	0.51	1015	0.88
50	1638	0.54	915	0.97
55	1535	0.58	825	1.08
60	1433	0.62	746	1.19
65	1332	0.67	678	1.31
70	1233	0.72	621	1.43
75	1136	0.78	572	1.55
80	1044	0.85	531	1.68
85	956	0.93	495	1.80
90	875	1.02	465	1.91
95	800	1.11	439	2.03
200	278	3.20	232	3.84

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2210	1.45	1675	1.91
30	2048*	0.77	1324	1.19
35	1949	0.81	1215	1.30
40	1850	0.85	1115	1.42
45	1751	0.90	1023	1.55
50	1653	0.96	941	1.68
55	1556	1.02	868	1.82
60	1460	1.08	804	1.97
65	1366	1.16	748	2.11
70	1275	1.24	699	2.26
75	1187	1.33	656	2.41
80	1105	1.43	619	2.56
85	1027	1.54	586	2.70
90	954	1.66	557	2.84
95	888	1.78	531	2.98
200	362	4.38	302	5.25

SAG & TENSION DATA

All Aluminum Conductor - 336 Tulip, 19 strand

Rated Breaking Strength: 6150 lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2279	2.20	1756	2.85
30	2048*	1.21	1300	1.90
35	1953	1.26	1207	2.05
40	1858	1.33	1122	2.20
45	1763	1.40	1046	2.36
50	1670	1.48	977	2.53
55	1579	1.56	915	2.70
60	1489	1.66	861	2.87
65	1403	1.76	812	3.04
70	1319	1.87	769	3.21
75	1240	1.99	731	3.38
80	1165	2.12	696	3.55
85	1094	2.26	665	3.71
90	1029	2.40	638	3.88
95	969	2.55	613	4.03
200	441	5.61	368	6.74

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2351	3.07	1840	3.92
30	2048*	1.74	1294	2.75
35	1957	1.82	1215	2.93
40	1866	1.91	1142	3.11
45	1777	2.00	1077	3.30
50	1689	2.11	1017	3.50
55	1603	2.22	964	3.69
60	1520	2.34	916	3.89
65	1440	2.47	873	4.08
70	1363	2.61	833	4.27
75	1291	2.76	798	4.46
80	1222	2.91	766	4.65
85	1158	3.07	737	4.83
90	1098	3.24	710	5.01
95	1043	3.41	686	5.19
200	517	6.89	431	8.29

SAG & TENSION DATA
All Aluminum Conductor - 336 Tulip, 19 strand
Rated Breaking Strength: 6150 lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2423	4.05	1925	5.11
30	2048*	2.36	1300	3.72
35	1961	2.47	1232	3.93
40	1875	2.58	1169	4.14
45	1790	2.70	1111	4.36
50	1708	2.83	1059	4.57
55	1628	2.97	1012	4.79
60	1551	3.12	968	5.00
65	1477	3.28	929	5.22
70	1406	3.44	893	5.43
75	1339	3.61	860	5.63
80	1276	3.79	830	5.84
85	1217	3.98	802	6.04
90	1162	4.17	777	6.24
95	1111	4.36	753	6.44
200	589	8.24	490	9.91

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2493	5.15	2009	6.39
30	2048*	3.09	1315	4.81
35	1965	3.22	1254	5.04
40	1884	3.36	1198	5.28
45	1804	3.50	1147	5.51
50	1727	3.66	1100	5.75
55	1653	3.83	1058	5.98
60	1581	4.00	1018	6.22
65	1512	4.18	982	6.45
70	1447	4.37	948	6.67
75	1385	4.57	917	6.90
80	1327	4.77	889	7.12
85	1272	4.97	862	7.34
90	1221	5.18	838	7.56
95	1173	5.40	815	7.77
200	657	9.65	548	11.59

SAG & TENSION DATA
All Aluminum Conductor - 336 Tulip, 19 strand
Rated Breaking Strength: 6150 lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2562	6.34	2090	7.78
30	2048*	3.91	1333	6.00
35	1970	4.06	1279	6.26
40	1893	4.23	1229	6.51
45	1818	4.40	1183	6.77
50	1746	4.58	1141	7.02
55	1677	4.77	1101	7.27
60	1610	4.97	1065	7.52
65	1546	5.18	1031	7.77
70	1486	5.39	1000	8.01
75	1428	5.61	971	8.25
80	1374	5.83	944	8.49
85	1323	6.05	918	8.73
90	1274	6.28	895	8.96
95	1229	6.51	873	9.19
200	722	11.12	602	13.34

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2628	7.63	2168	9.26
30	2048*	4.82	1355	7.30
35	1974	5.01	1306	7.57
40	1902	5.20	1261	7.84
45	1832	5.39	1219	8.11
50	1765	5.60	1180	8.38
55	1700	5.81	1143	8.65
60	1637	6.04	1109	8.92
65	1578	6.26	1078	9.18
70	1522	6.50	1048	9.44
75	1468	6.73	1021	9.70
80	1417	6.97	995	9.95
85	1369	7.22	970	10.20
90	1324	7.47	948	10.45
95	1282	7.72	926	10.69
200	783	12.66	655	15.16

SAG & TENSION DATA
All Aluminum Conductor - 336 Tulip, 19 strand
Rated Breaking Strength: 6150 lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2692	9.02	2243	10.83
30	2048*	5.84	1377	8.69
35	1978	6.04	1333	8.98
40	1910	6.26	1292	9.27
45	1845	6.48	1253	9.55
50	1782	6.71	1217	9.84
55	1721	6.95	1183	10.12
60	1663	7.19	1151	10.40
65	1608	7.44	1121	10.68
70	1555	7.69	1093	10.95
75	1505	7.95	1067	11.22
80	1457	8.21	1042	11.49
85	1412	8.47	1019	11.75
90	1370	8.73	997	12.01
95	1330	9.00	976	12.27
200	841	14.26	705	17.04

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2752	10.50	2315	12.49
30	2048*	6.95	1400	10.17
35	1982	7.18	1360	10.47
40	1919	7.42	1322	10.78
45	1857	7.66	1286	11.08
50	1798	7.91	1252	11.38
55	1742	8.17	1220	11.68
60	1688	8.44	1191	11.97
65	1636	8.70	1162	12.26
70	1586	8.97	1136	12.55
75	1539	9.25	1111	12.83
80	1495	9.53	1087	13.11
85	1452	9.81	1065	13.39
90	1412	10.09	1043	13.67
95	1374	10.37	1023	13.94
200	896	15.93	753	18.99

SAG & TENSION DATA

All Aluminum Alloy Conductor - 4/0 Alliance, 7 strand

Rated Breaking Strength: 8560 lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2769	0.54	2216	0.67
30	2730	0.24	2140*	0.30
35	2638	0.25	2029	0.32
40	2547	0.26	1918	0.34
45	2456	0.27	1808	0.36
50	2366	0.28	1698	0.38
55	2275	0.29	1589	0.41
60	2185	0.30	1481	0.44
65	2095	0.31	1375	0.47
70	2006	0.33	1270	0.51
75	1917	0.34	1166	0.56
80	1828	0.36	1066	0.61
85	1741	0.37	969	0.67
90	1654	0.39	877	0.74
95	1568	0.42	791	0.83
200	352	1.85	215	3.05

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2802	0.95	2268	1.17
30	2733	0.42	2140*	0.54
35	2643	0.44	2031	0.57
40	2552	0.45	1922	0.60
45	2462	0.47	1814	0.64
50	2372	0.49	1707	0.68
55	2282	0.51	1601	0.72
60	2193	0.53	1496	0.78
65	2104	0.55	1394	0.83
70	2016	0.58	1294	0.90
75	1928	0.60	1197	0.97
80	1841	0.63	1103	1.05
85	1755	0.66	1014	1.14
90	1670	0.69	930	1.25
95	1586	0.73	852	1.36
200	432	2.69	280	4.15

SAG & TENSION DATA

All Aluminum Alloy Conductor - 4/0 Alliance, 7 strand

Rated Breaking Strength: 8560 lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2841	1.46	2327	1.79
30	2738	0.66	2140*	0.85
35	2648	0.68	2033	0.89
40	2558	0.71	1926	0.94
45	2468	0.73	1821	1.00
50	2379	0.76	1717	1.06
55	2290	0.79	1615	1.12
60	2202	0.82	1514	1.20
65	2114	0.86	1416	1.28
70	2027	0.89	1322	1.37
75	1941	0.93	1230	1.47
80	1855	0.98	1143	1.59
85	1771	1.02	1060	1.71
90	1688	1.07	983	1.84
95	1606	1.13	912	1.99
200	506	3.58	344	5.29

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2885	2.07	2391	2.50
30	2741	0.95	2140*	1.22
35	2652	0.98	2035	1.28
40	2563	1.02	1931	1.35
45	2475	1.05	1829	1.43
50	2387	1.09	1728	1.51
55	2299	1.14	1630	1.60
60	2212	1.18	1534	1.70
65	2125	1.23	1441	1.81
70	2040	1.28	1351	1.93
75	1955	1.34	1265	2.06
80	1872	1.39	1184	2.21
85	1789	1.46	1107	2.36
90	1708	1.53	1036	2.52
95	1629	1.60	969	2.69
200	575	4.55	404	6.47

SAG & TENSION DATA

All Aluminum Alloy Conductor - 4/0 Alliance, 7 strand
Rated Breaking Strength: 8560 lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2933	2.78	2457	3.32
30	2744	1.29	2140*	1.66
35	2656	1.34	2038	1.74
40	2568	1.38	1937	1.83
45	2481	1.43	1838	1.93
50	2394	1.48	1741	2.04
55	2307	1.54	1647	2.16
60	2222	1.60	1555	2.28
65	2137	1.66	1467	2.42
70	2053	1.73	1382	2.57
75	1970	1.80	1301	2.73
80	1888	1.88	1225	2.90
85	1808	1.97	1153	3.08
90	1729	2.05	1086	3.27
95	1652	2.15	1025	3.47
200	640	5.56	463	7.70

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2982	3.57	2525	4.21
30	2747	1.69	2140*	2.17
35	2659	1.74	2041	2.27
40	2573	1.80	1943	2.39
45	2486	1.87	1848	2.51
50	2401	1.93	1754	2.65
55	2316	2.00	1664	2.79
60	2231	2.08	1577	2.94
65	2148	2.16	1493	3.11
70	2066	2.25	1413	3.28
75	1985	2.34	1337	3.47
80	1906	2.44	1265	3.67
85	1827	2.54	1198	3.88
90	1751	2.65	1135	4.09
95	1677	2.77	1077	4.31
200	701	6.63	519	8.97

SAG & TENSION DATA

All Aluminum Alloy Conductor - 4/0 Alliance, 7 strand

Rated Breaking Strength: 8560 lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3033	4.44	2593	5.19
30	2747	2.14	2140*	2.74
35	2661	2.21	2044	2.87
40	2576	2.28	1949	3.01
45	2491	2.36	1858	3.16
50	2406	2.44	1768	3.32
55	2323	2.53	1682	3.49
60	2241	2.62	1599	3.67
65	2159	2.72	1520	3.87
70	2079	2.83	1444	4.07
75	2000	2.94	1372	4.28
80	1923	3.06	1304	4.50
85	1847	3.18	1241	4.74
90	1773	3.31	1181	4.97
95	1701	3.45	1126	5.22
200	758	7.76	573	10.28

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3084	5.39	2661	6.25
30	2747	2.64	2140*	3.39
35	2662	2.72	2047	3.54
40	2578	2.81	1956	3.71
45	2494	2.91	1868	3.88
50	2411	3.01	1783	4.07
55	2330	3.11	1700	4.27
60	2249	3.22	1621	4.47
65	2169	3.34	1546	4.69
70	2091	3.47	1474	4.92
75	2014	3.60	1406	5.16
80	1939	3.74	1342	5.41
85	1866	3.89	1282	5.66
90	1794	4.04	1225	5.92
95	1725	4.21	1173	6.19
200	813	8.93	625	11.64

SAG & TENSION DATA

All Aluminum Alloy Conductor - 4/0 Alliance, 7 strand
Rated Breaking Strength: 8560 lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3135	6.42	2727	7.38
30	2745	3.20	2140*	4.10
35	2661	3.30	2050	4.28
40	2579	3.40	1963	4.47
45	2497	3.51	1878	4.67
50	2415	3.63	1797	4.88
55	2335	3.76	1718	5.11
60	2256	3.89	1643	5.34
65	2179	4.03	1571	5.59
70	2103	4.17	1503	5.84
75	2028	4.33	1439	6.10
80	1955	4.49	1378	6.37
85	1884	4.66	1321	6.65
90	1815	4.84	1267	6.93
95	1748	5.02	1217	7.22
200	865	10.16	675	13.04

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3186	7.52	2792	8.58
30	2741	3.81	2140*	4.88
35	2659	3.93	2054	5.09
40	2578	4.05	1970	5.30
45	2498	4.18	1889	5.53
50	2418	4.32	1811	5.77
55	2340	4.46	1736	6.02
60	2263	4.61	1664	6.28
65	2188	4.77	1596	6.54
70	2113	4.94	1531	6.82
75	2041	5.12	1470	7.11
80	1970	5.30	1412	7.40
85	1902	5.49	1358	7.70
90	1835	5.69	1307	8.00
95	1770	5.90	1259	8.30
200	915	11.43	723	14.48

SAG & TENSION DATA

All Aluminum Alloy Conductor - 3/0 Amherst, 7 strand
Rated Breaking Strength: 6790 lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2206	0.60	1774	0.74
30	2165	0.24	1697*	0.30
35	2093	0.25	1609	0.32
40	2021	0.26	1522	0.34
45	1949	0.27	1434	0.36
50	1877	0.28	1347	0.38
55	1805	0.29	1261	0.41
60	1733	0.30	1175	0.44
65	1662	0.31	1091	0.47
70	1591	0.33	1007	0.51
75	1521	0.34	926	0.56
80	1451	0.36	846	0.61
85	1381	0.37	769	0.67
90	1313	0.39	696	0.74
95	1244	0.42	628	0.82
200	280	1.85	170	3.05

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2238	1.05	1825	1.29
30	2168	0.42	1698*	0.54
35	2097	0.44	1611	0.57
40	2025	0.45	1524	0.60
45	1953	0.47	1439	0.64
50	1882	0.49	1354	0.68
55	1811	0.51	1270	0.72
60	1740	0.53	1187	0.77
65	1669	0.55	1106	0.83
70	1599	0.58	1027	0.90
75	1530	0.60	950	0.97
80	1461	0.63	875	1.05
85	1392	0.66	804	1.14
90	1325	0.69	738	1.25
95	1258	0.73	676	1.36
200	343	2.68	222	4.14

SAG & TENSION DATA

All Aluminum Alloy Conductor - 3/0 Amherst, 7 strand
Rated Breaking Strength: 6790 lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2276	1.61	1882	1.95
30	2172	0.66	1698*	0.85
35	2100	0.68	1612	0.89
40	2029	0.71	1528	0.94
45	1958	0.73	1444	1.00
50	1888	0.76	1362	1.06
55	1817	0.79	1281	1.12
60	1747	0.82	1201	1.20
65	1677	0.86	1124	1.28
70	1608	0.89	1049	1.37
75	1540	0.93	976	1.47
80	1472	0.98	907	1.59
85	1405	1.02	841	1.71
90	1339	1.07	780	1.84
95	1275	1.13	724	1.99
200	402	3.58	273	5.29

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2318	2.28	1943	2.72
30	2175	0.95	1698*	1.22
35	2104	0.98	1614	1.28
40	2033	1.02	1532	1.35
45	1963	1.05	1451	1.43
50	1893	1.09	1371	1.51
55	1824	1.14	1293	1.60
60	1755	1.18	1217	1.70
65	1686	1.23	1143	1.81
70	1618	1.28	1072	1.93
75	1551	1.33	1004	2.06
80	1485	1.39	940	2.20
85	1420	1.46	879	2.36
90	1355	1.53	822	2.52
95	1292	1.60	769	2.69
200	456	4.54	321	6.47

SAG & TENSION DATA
All Aluminum Alloy Conductor - 3/0 Amherst, 7 strand
Rated Breaking Strength: 6790 lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2364	3.04	2005	3.58
30	2177	1.29	1698*	1.66
35	2107	1.34	1616	1.74
40	2037	1.38	1536	1.83
45	1968	1.43	1458	1.93
50	1899	1.48	1381	2.04
55	1831	1.54	1306	2.16
60	1763	1.60	1234	2.28
65	1695	1.66	1164	2.42
70	1629	1.73	1097	2.57
75	1563	1.80	1033	2.73
80	1498	1.88	972	2.90
85	1435	1.96	915	3.08
90	1372	2.05	862	3.27
95	1311	2.15	813	3.47
200	507	5.56	367	7.70

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2411	3.89	2069	4.54
30	2179	1.69	1698*	2.17
35	2110	1.74	1619	2.27
40	2041	1.80	1541	2.39
45	1972	1.87	1466	2.51
50	1904	1.93	1392	2.64
55	1837	2.00	1320	2.79
60	1770	2.08	1251	2.94
65	1704	2.16	1185	3.11
70	1639	2.25	1121	3.28
75	1575	2.34	1061	3.47
80	1512	2.43	1004	3.67
85	1450	2.54	951	3.87
90	1389	2.65	901	4.09
95	1330	2.77	854	4.31
200	556	6.63	412	8.96

SAG & TENSION DATA

All Aluminum Alloy Conductor - 3/0 Amherst, 7 strand

Rated Breaking Strength: 6790 lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2459	4.83	2132	5.57
30	2179	2.14	1698*	2.74
35	2111	2.21	1621	2.87
40	2043	2.28	1546	3.01
45	1976	2.36	1474	3.16
50	1909	2.44	1403	3.32
55	1843	2.53	1335	3.49
60	1778	2.62	1269	3.67
65	1713	2.72	1206	3.86
70	1649	2.82	1146	4.07
75	1587	2.94	1089	4.28
80	1525	3.05	1035	4.50
85	1465	3.18	984	4.73
90	1407	3.31	937	4.97
95	1350	3.45	894	5.22
200	602	7.75	454	10.28

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2508	5.85	2195	6.69
30	2179	2.64	1697*	3.39
35	2112	2.72	1624	3.54
40	2045	2.81	1552	3.71
45	1979	2.91	1482	3.88
50	1913	3.01	1414	4.07
55	1848	3.11	1349	4.26
60	1784	3.22	1286	4.47
65	1721	3.34	1226	4.69
70	1659	3.47	1169	4.92
75	1598	3.60	1115	5.16
80	1539	3.74	1065	5.40
85	1480	3.89	1017	5.66
90	1424	4.04	972	5.92
95	1368	4.20	931	6.18
200	645	8.93	496	11.63

SAG & TENSION DATA
All Aluminum Alloy Conductor - 3/0 Amherst, 7 strand
Rated Breaking Strength: 6790 lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2556	6.94	2256	7.87
30	2177	3.20	1697*	4.10
35	2111	3.30	1626	4.28
40	2045	3.40	1557	4.47
45	1980	3.51	1490	4.67
50	1916	3.63	1425	4.88
55	1853	3.76	1363	5.11
60	1790	3.89	1303	5.34
65	1729	4.03	1247	5.58
70	1668	4.17	1193	5.84
75	1609	4.33	1141	6.10
80	1551	4.49	1093	6.37
85	1495	4.66	1048	6.65
90	1440	4.83	1005	6.93
95	1387	5.02	965	7.21
200	687	10.15	535	13.03

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2604	8.11	2316	9.13
30	2175	3.81	1697*	4.88
35	2110	3.93	1629	5.08
40	2045	4.05	1563	5.30
45	1981	4.18	1498	5.53
50	1918	4.32	1436	5.77
55	1856	4.46	1377	6.02
60	1795	4.61	1320	6.27
65	1735	4.77	1266	6.54
70	1677	4.94	1215	6.82
75	1619	5.12	1166	7.10
80	1563	5.30	1120	7.40
85	1509	5.49	1077	7.69
90	1456	5.69	1037	8.00
95	1404	5.90	998	8.30
200	726	11.43	574	14.48

SAG & TENSION DATA

All Aluminum Alloy Conductor - 1/0 Azusa, 7 strand

Rated Breaking Strength: 4460 lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6639	0.44	4927	0.59
30	6593*	0.31	4817	0.42
35	6402	0.31	4548	0.44
40	6209	0.32	4282	0.47
45	6012	0.34	4018	0.50
50	5814	0.35	3759	0.54
55	5613	0.36	3504	0.58
60	5410	0.37	3254	0.62
65	5204	0.39	3012	0.67
70	4997	0.40	2779	0.73
75	4788	0.42	2556	0.79
80	4577	0.44	2347	0.86
85	4365	0.46	2151	0.94
90	4151	0.49	1973	1.02
95	3936	0.51	1811	1.11
200	1122	1.80	1106	1.52

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6673	0.78	4977	1.05
30	6593*	0.54	4791	0.75
35	6404	0.56	4532	0.79
40	6213	0.58	4277	0.84
45	6019	0.60	4026	0.89
50	5823	0.62	3781	0.95
55	5626	0.64	3543	1.01
60	5426	0.66	3312	1.08
65	5225	0.69	3091	1.16
70	5022	0.71	2880	1.24
75	4818	0.74	2681	1.34
80	4614	0.78	2496	1.44
85	4408	0.81	2324	1.54
90	4203	0.85	2167	1.66
95	3997	0.90	2024	1.77
200	1306	2.75	1289	2.78

SAG & TENSION DATA
All Aluminum Alloy Conductor - 1/0 Azusa, 7 strand
Rated Breaking Strength: 4460 lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6715	1.21	5041	1.62
30	6593*	0.85	4767	1.18
35	6407	0.87	4520	1.24
40	6218	0.90	4278	1.31
45	6027	0.93	4042	1.39
50	5835	0.96	3813	1.47
55	5641	0.99	3592	1.56
60	5446	1.03	3380	1.66
65	5250	1.07	3178	1.76
70	505	1.11	2988	1.88
75	4856	1.15	2809	1.99
80	4658	1.20	2642	2.12
85	4460	1.26	2489	2.25
90	4264	1.31	2347	2.39
95	4069	1.38	2218	2.53
200	1476	3.80	1456	3.85

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6764	1.73	5115	2.29
30	6593*	1.22	4748	1.70
35	6410	1.26	4514	1.79
40	6224	1.30	4286	1.88
45	6037	1.34	4066	1.98
50	5849	1.38	3853	2.09
55	5660	1.43	3649	2.21
60	5470	1.47	3455	2.34
65	5279	1.53	3270	2.47
70	5089	1.59	3097	2.61
75	4898	1.65	2935	2.75
80	4708	1.71	2784	2.90
85	4519	1.79	2643	3.05
90	4332	1.86	2514	3.21
95	4146	1.95	2395	3.37
200	1675	4.82	1612	5.01

SAG & TENSION DATA

All Aluminum Alloy Conductor - 1/0 Azusa, 7 strand
Rated Breaking Strength: 4460 lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6818	2.34	5198	3.07
30	6593*	1.67	4737	2.32
35	6413	1.71	4516	2.43
40	6231	1.76	4303	2.55
45	6048	1.82	4097	2.68
50	5865	1.87	3900	2.82
55	5681	1.93	3712	2.96
60	5496	2.00	3533	3.11
65	5312	2.07	3364	3.26
70	5128	2.14	3206	3.43
75	4944	2.22	3057	3.59
80	4762	2.31	2918	3.76
85	4582	2.40	2789	3.94
90	4403	2.49	2669	4.12
95	4228	2.60	2558	4.29
200	1879	5.85	1757	6.26

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6876	3.03	5288	3.94
30	6593*	2.18	4733	3.03
35	6417	2.24	4526	3.17
40	6239	2.30	4327	3.32
45	6061	2.37	4136	3.47
50	5882	2.44	3953	3.63
55	5703	2.51	3779	3.80
60	5525	2.60	3614	3.97
65	5346	2.68	3459	4.15
70	5169	2.77	3312	4.33
75	4993	2.87	3175	4.52
80	4819	2.98	3046	4.71
85	4647	3.09	2926	4.90
90	4478	3.20	2815	5.10
95	4312	3.33	2710	5.30
200	2069	6.94	1895	7.58

SAG & TENSION DATA
All Aluminum Alloy Conductor - 1/0 Azusa, 7 strand
Rated Breaking Strength: 4460 lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	6938	3.80	5382	4.90
30	6593*	2.75	4738	3.83
35	6421	2.83	4544	4.00
40	6247	2.91	4358	4.17
45	6074	2.99	4180	4.34
50	5900	3.08	4010	4.53
55	5727	3.17	3849	4.72
60	5555	3.27	3696	4.91
65	5383	3.37	3552	5.11
70	5213	3.48	3416	5.32
75	5044	3.60	3289	5.52
80	4878	3.72	3169	5.73
85	4714	3.85	3056	5.94
90	4553	3.99	2951	6.16
95	4395	4.13	2853	6.37
200	2249	8.08	2025	8.98

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	7002	4.65	5479	5.95
30	6593*	3.40	4749	4.72
35	6425	3.49	4568	4.91
40	6256	3.58	4394	5.10
45	6088	3.68	4228	5.30
50	5920	3.79	4070	5.51
55	5752	3.90	3920	5.72
60	5586	4.01	3778	5.93
65	5421	4.14	3644	6.15
70	5257	4.26	3517	6.38
75	5096	4.40	3398	6.60
80	4937	4.54	3285	6.83
85	4781	4.69	3179	7.05
90	4628	4.84	3080	7.28
95	4478	5.01	2986	7.51
200	2418	9.28	2149	10.45

SAG & TENSION DATA

All Aluminum Alloy Conductor - 1/0 Azusa, 7 strand
Rated Breaking Strength: 4460 lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	7067	5.58	5577	7.07
30	6593*	4.11	4767	5.69
35	6429	4.22	4597	5.90
40	6266	4.33	4435	6.12
45	6102	4.44	4280	6.34
50	5940	4.57	4133	6.57
55	5778	4.69	3992	6.80
60	5618	4.83	3860	7.03
65	5459	4.97	3734	7.27
70	5302	5.12	3615	7.51
75	5148	5.27	3503	7.75
80	4996	5.43	3396	7.99
85	4847	5.60	3296	8.23
90	4702	5.77	3202	8.48
95	4560	5.95	3113	8.72
200	2579	10.53	2267	11.99

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	7134	6.58	5676	8.27
30	6593*	4.90	4789	6.74
35	6434	5.02	4630	6.97
40	6275	5.14	4479	7.21
45	6117	5.28	4334	7.45
50	5960	5.42	4196	7.70
55	5804	5.56	4064	7.95
60	5650	5.71	3940	8.20
65	5498	5.87	3821	8.45
70	5347	6.04	3709	8.71
75	5200	6.21	3603	8.97
80	5055	6.39	3503	9.22
85	4913	6.57	3408	9.48
90	4774	6.76	3317	9.74
95	4639	6.96	3232	10.00
200	2731	11.84	2380	13.60

SAG & TENSION DATA

All Aluminum Alloy Conductor - #2 Ames, 7 strand
Rated Breaking Strength: 2800 lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	935	0.90	772	1.09
30	896	0.23	700*	0.29
35	867	0.24	665	0.31
40	839	0.24	630	0.33
45	810	0.25	596	0.34
50	781	0.26	561	0.37
55	753	0.27	527	0.39
60	725	0.28	493	0.42
65	696	0.29	459	0.45
70	668	0.31	425	0.48
75	640	0.32	393	0.52
80	612	0.34	360	0.57
85	584	0.35	329	0.62
90	557	0.37	299	0.69
95	529	0.39	270	0.76
200	120	1.71	69	2.98

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	963	1.55	814	1.83
30	897	0.41	700*	0.52
35	868	0.42	666	0.55
40	840	0.43	631	0.58
45	811	0.45	597	0.61
50	783	0.47	563	0.65
55	755	0.48	530	0.69
60	727	0.50	497	0.73
65	699	0.52	464	0.79
70	671	0.54	432	0.84
75	643	0.57	401	0.91
80	615	0.59	371	0.99
85	588	0.62	341	1.07
90	561	0.65	314	1.16
95	534	0.68	288	1.27
200	146	2.51	90	4.06

SAG & TENSION DATA

All Aluminum Alloy Conductor - #2 Ames, 7 strand
Rated Breaking Strength: 2800 lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	995	2.34	859	2.71
30	898	0.64	700*	0.81
35	869	0.66	666	0.86
40	841	0.68	632	0.90
45	813	0.70	599	0.95
50	785	0.73	566	1.01
55	757	0.75	534	1.07
60	729	0.78	502	1.14
65	701	0.81	470	1.21
70	674	0.85	440	1.30
75	646	0.88	410	1.39
80	619	0.92	382	1.49
85	592	0.96	355	1.61
90	566	1.01	329	1.73
95	539	1.06	305	1.87
200	169	3.38	110	5.18

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1028	3.26	904	3.71
30	899	0.91	700*	1.17
35	871	0.94	667	1.23
40	843	0.97	634	1.30
45	815	1.01	601	1.37
50	787	1.04	569	1.44
55	759	1.08	538	1.53
60	732	1.12	507	1.62
65	704	1.17	477	1.72
70	677	1.21	448	1.83
75	650	1.26	420	1.95
80	623	1.32	394	2.09
85	597	1.38	368	2.23
90	571	1.44	345	2.38
95	546	1.51	322	2.55
200	191	4.31	130	6.34

SAG & TENSION DATA
All Aluminum Alloy Conductor - #2 Ames, 7 strand
Rated Breaking Strength: 2800 lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1063	4.30	949	4.81
30	899	1.24	700*	1.60
35	872	1.28	668	1.67
40	844	1.32	636	1.76
45	816	1.37	604	1.85
50	789	1.42	573	1.95
55	761	1.47	543	2.06
60	734	1.52	513	2.18
65	707	1.58	485	2.31
70	681	1.64	457	2.45
75	654	1.71	431	2.60
80	628	1.78	406	2.76
85	602	1.86	382	2.93
90	577	1.94	360	3.11
95	552	2.02	339	3.30
200	211	5.30	149	7.54

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1099	5.43	993	6.01
30	900	1.62	700*	2.09
35	872	1.67	668	2.18
40	845	1.73	637	2.29
45	818	1.79	607	2.41
50	791	1.85	577	2.53
55	764	1.91	548	2.67
60	737	1.98	520	2.81
65	710	2.06	492	2.97
70	684	2.13	466	3.13
75	658	2.22	441	3.31
80	633	2.31	418	3.50
85	608	2.40	395	3.70
90	583	2.50	374	3.90
95	559	2.61	355	4.12
200	230	6.35	166	8.79

SAG & TENSION DATA

All Aluminum Alloy Conductor - #2 Ames, 7 strand

Rated Breaking Strength: 2800 lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1134	6.66	1037	7.29
30	900	2.05	700*	2.64
35	873	2.12	669	2.76
40	846	2.18	639	2.89
45	819	2.26	610	3.03
50	792	2.33	581	3.18
55	766	2.41	553	3.34
60	740	2.50	526	3.51
65	714	2.59	500	3.70
70	688	2.69	475	3.89
75	663	2.79	452	4.09
80	638	2.90	429	4.31
85	613	3.01	408	4.53
90	589	3.14	388	4.76
95	566	3.27	370	5.00
200	249	7.44	184	10.08

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1169	7.97	1079	8.64
30	900	2.54	700*	3.26
35	873	2.61	670	3.40
40	846	2.70	641	3.56
45	820	2.78	613	3.72
50	794	2.87	585	3.90
55	768	2.97	558	4.09
60	742	3.08	533	4.28
65	716	3.18	508	4.49
70	691	3.30	484	4.71
75	667	3.42	462	4.94
80	642	3.55	441	5.18
85	619	3.69	421	5.43
90	595	3.83	402	5.68
95	573	3.98	384	5.94
200	266	8.59	200	11.42

SAG & TENSION DATA
All Aluminum Alloy Conductor - #2 Ames, 7 strand
Rated Breaking Strength: 2800 lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1204	9.37	1120	10.08
30	899	3.07	700*	3.94
35	873	3.16	671	4.11
40	847	3.26	643	4.29
45	821	3.36	616	4.48
50	795	3.47	589	4.69
55	769	3.59	564	4.90
60	744	3.71	539	5.12
65	719	3.84	516	5.36
70	695	3.97	493	5.60
75	671	4.12	472	5.85
80	647	4.27	452	6.12
85	624	4.43	433	6.39
90	601	4.59	415	6.66
95	579	4.77	398	6.94
200	283	9.79	216	12.80

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1238	10.85	1160	11.58
30	898	3.66	700*	4.69
35	872	3.77	672	4.89
40	847	3.88	645	5.09
45	821	4.00	619	5.31
50	796	4.13	593	5.54
55	771	4.26	569	5.78
60	746	4.41	545	6.03
65	722	4.55	523	6.28
70	698	4.71	502	6.55
75	674	4.87	481	6.83
80	651	5.05	462	7.11
85	629	5.23	444	7.40
90	607	5.41	427	7.70
95	586	5.61	411	8.00
200	298	11.03	232	14.22

SAG & TENSION DATA

All Aluminum Alloy Conductor - 1/0 Azusa, 7 strand, Aerial Cable (Tree Wire)
Rated Breaking Strength: 4460 lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1600	1.64	1375	1.90
30	1433	0.83	1115*	1.07
35	1391	0.86	1069	1.12
40	1349	0.88	1024	1.16
45	1307	0.91	980	1.22
50	1266	0.94	938	1.27
55	1225	0.97	897	1.33
60	1185	1.01	858	1.39
65	1145	1.04	821	1.45
70	1106	1.08	785	1.52
75	1068	1.12	751	1.59
80	1030	1.16	718	1.66
85	993	1.20	688	1.73
90	957	1.25	659	1.81
95	922	1.29	633	1.89
200	449	2.66	343	3.49

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1682	2.77	1483	3.14
30	1424	1.49	1115*	1.90
35	1385	1.53	1075	1.97
40	1345	1.58	1036	2.05
45	1307	1.62	998	2.13
50	1269	1.67	962	2.21
55	1231	1.72	927	2.29
60	1194	1.78	894	2.37
65	1158	1.83	862	2.46
70	1122	1.89	832	2.55
75	1088	1.95	804	2.64
80	1054	2.01	776	2.73
85	1021	2.08	751	2.83
90	989	2.14	726	2.92
95	958	2.21	703	3.02
200	535	3.97	429	4.96

SAG & TENSION DATA

All Aluminum Alloy Conductor - 1/0 Azusa, 7 strand, Aerial Cable (Tree Wire)
Rated Breaking Strength: 4460 lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1758	4.14	1581	4.60
30	1408	2.35	1115*	2.97
35	1371	2.42	1080	3.07
40	1335	2.48	1047	3.17
45	1300	2.55	1015	3.27
50	1265	2.62	984	3.37
55	1231	2.69	954	3.48
60	1198	2.77	926	3.58
65	1165	2.84	899	3.69
70	1134	2.92	873	3.80
75	1103	3.01	849	3.91
80	1073	3.09	825	4.02
85	1044	3.18	803	4.13
90	1015	3.27	782	4.24
95	988	3.36	762	4.36
200	608	5.46	503	6.61

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1827	5.74	1668	6.28
30	1386	3.44	1115*	4.28
35	1353	3.53	1085	4.40
40	1321	3.62	1057	4.52
45	1289	3.70	1029	4.64
50	1257	3.80	1003	4.76
55	1227	3.89	977	4.89
60	1197	3.99	953	5.01
65	1168	4.09	930	5.14
70	1140	4.19	908	5.26
75	1113	4.29	886	5.39
80	1087	4.39	866	5.52
85	1061	4.50	847	5.64
90	1036	4.61	828	5.77
95	1012	4.72	810	5.90
200	670	7.14	568	8.43

SAG & TENSION DATA

All Aluminum Alloy Conductor - 1/0 Azusa, 7 strand, Aerial Cable (Tree Wire)
Rated Breaking Strength: 4460 lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1888	7.56	1746	8.18
30	1362	4.77	1115*	5.83
35	1332	4.88	1089	5.97
40	1303	4.99	1065	6.11
45	1275	5.10	1041	6.25
50	1247	5.21	1019	6.38
55	1220	5.33	997	6.53
60	1194	5.45	976	6.67
65	1168	5.56	956	6.81
70	1144	5.68	936	6.95
75	1120	5.81	918	7.09
80	1097	5.93	900	7.23
85	1074	6.05	883	7.37
90	1052	6.18	867	7.51
95	1031	6.31	851	7.65
200	723	9.02	626	10.43

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1943	9.60	1815	10.28
30	1336	6.35	1115*	7.62
35	1310	6.48	1093	7.77
40	1284	6.61	1072	7.93
45	1260	6.74	1052	8.08
50	1235	6.88	1032	8.23
55	1212	7.01	1013	8.39
60	1189	7.15	995	8.54
65	1166	7.28	978	8.70
70	1145	7.42	961	8.85
75	1124	7.56	944	9.00
80	1104	7.70	929	9.16
85	1084	7.84	913	9.31
90	1065	7.98	899	9.46
95	1046	8.12	885	9.61
200	768	11.09	676	12.61

SAG & TENSION DATA

All Aluminum Alloy Conductor - 1/0 Azusa, 7 strand, Aerial Cable (Tree Wire)
Rated Breaking Strength: 4460 lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1991	11.87	1876	12.60
30	1312	8.20	1115*	9.65
35	1289	8.34	1096	9.82
40	1266	8.49	1078	9.98
45	1245	8.64	1060	10.15
50	1224	8.79	1043	10.32
55	1203	8.94	1027	10.48
60	1183	9.09	1011	10.65
65	1163	9.25	996	10.81
70	1145	9.40	981	10.98
75	1126	9.55	966	11.14
80	1108	9.71	953	11.31
85	1091	9.86	939	11.47
90	1074	10.02	926	11.63
95	1058	10.17	913	11.79
200	807	13.36	720	14.99

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2034	14.35	1930	15.13
30	1289	10.30	1115*	11.92
35	1269	10.46	1099	12.10
40	1250	10.63	1083	12.28
45	1231	10.79	1068	12.45
50	1212	10.96	1053	12.63
55	1194	11.12	1038	12.81
60	1177	11.29	1024	12.98
65	1160	11.45	1011	13.16
70	1143	11.62	998	13.33
75	1127	11.79	985	13.50
80	1112	11.95	973	13.68
85	1097	12.12	961	13.85
90	1082	12.29	949	14.02
95	1067	12.45	938	14.19
200	840	15.85	759	17.57

SAG & TENSION DATA

All Aluminum Alloy Conductor - 1/0 Azusa, 7 strand, Aerial Cable (Tree Wire)
Rated Breaking Strength: 4460 lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2072	17.06	1978	17.87
30	1269	12.67	1115.*	14.43
35	1252	12.85	1101	14.62
40	1235	13.02	1087	14.81
45	1218	13.20	1074	14.99
50	1202	13.38	1061	15.18
55	1186	13.56	1048	15.36
60	1171	13.73	1036	15.55
65	1156	13.91	1024	15.73
70	1142	14.09	1012	15.91
75	1128	14.27	1001	16.10
80	1114	14.44	990	16.28
85	1101	14.62	979	16.46
90	1088	14.80	968	16.64
95	1075	14.97	958	16.82
200	869	18.55	793	20.36

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2105	20.00	2021	20.84
30	1251	15.30	1115*	17.19
35	1236	15.49	1103	17.38
40	1221	15.68	1090	17.58
45	1207	15.87	1079	17.77
50	1193	16.06	1067	17.96
55	1179	16.24	1056	18.16
60	1166	16.43	1045	18.35
65	1153	16.62	1034	18.54
70	1140	16.81	1024	18.73
75	1128	16.99	1014	18.92
80	1115	17.18	1004	19.11
85	1104	17.37	994	19.29
90	1092	17.55	985	19.48
95	1081	17.74	976	19.67
200	895	21.47	823	23.36

SAG & TENSION DATA
Secondary - #6 al duplex Vizsla
Rated Breaking Strength: 1100lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	472	2.42	440	2.60
30	357	0.54	277*	0.69
35	346	0.55	265	0.72
40	335	0.57	252	0.76
45	324	0.59	240	0.80
50	313	0.61	227	0.84
55	302	0.63	216	0.89
60	291	0.66	204	0.94
65	281	0.68	193	0.99
70	270	0.71	182	1.05
75	260	0.74	171	1.12
80	250	0.77	161	1.19
85	239	0.80	152	1.26
90	229	0.83	143	1.34
95	220	0.87	135	1.42
200	84	2.27	59	3.23

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	521	3.90	499	4.08
30	357	0.95	278*	1.23
35	346	0.98	266	1.28
40	336	1.01	254	1.34
45	325	1.05	242	1.40
50	315	1.08	231	1.47
55	304	1.12	220	1.54
60	294	1.16	210	1.62
65	284	1.20	200	1.70
70	274	1.24	190	1.79
75	264	1.29	181	1.88
80	254	1.34	172	1.97
85	244	1.39	164	2.07
90	235	1.45	156	2.18
95	226	1.51	149	2.28
200	102	3.35	76	4.51

SAG & TENSION DATA
Secondary - #6 al duplex Vizsla
Rated Breaking Strength: 1100lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	555*	5.73	543	5.86
30	334	1.59	261	2.04
35	324	1.64	250	2.12
40	314	1.69	240	2.21
45	304	1.75	230	2.31
50	294	1.81	220	2.41
55	285	1.87	211	2.52
60	275	1.93	202	2.63
65	266	2.00	194	2.74
70	257	2.07	186	2.86
75	248	2.14	179	2.98
80	239	2.22	172	3.10
85	231	2.30	165	3.22
90	222	2.39	159	3.35
95	215	2.48	153	3.48
200	111	4.80	88	6.06

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	555*	8.26	555	8.26
30	253	3.02	204	3.76
35	245	3.12	197	3.89
40	237	3.23	190	4.03
45	230	3.33	183	4.18
50	222	3.44	177	4.32
55	215	3.56	172	4.47
60	209	3.67	166	4.61
65	202	3.79	161	4.76
70	196	3.91	156	4.91
75	190	4.03	152	5.05
80	184	4.16	147	5.20
85	179	4.29	143	5.35
90	173	4.42	140	5.49
95	168	4.55	136	5.64
200	105	7.28	92	8.39

SAG & TENSION DATA
Secondary - #6 al duplex Vizsla
Rated Breaking Strength: 1100lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	555*	11.26	555	11.26
30	191	5.46	158	6.59
35	186	5.61	154	6.76
40	181	5.75	151	6.92
45	177	5.90	147	7.08
50	172	6.05	144	7.23
55	168	6.20	141	7.39
60	164	6.35	138	7.55
65	161	6.49	136	7.70
70	157	6.64	133	7.86
75	154	6.79	130	8.01
80	150	6.94	128	8.16
85	147	7.09	126	8.31
90	144	7.24	123	8.46
95	141	7.38	121	8.61
200	102	10.25	92	11.39

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	555*	14.74	555	14.74
30	155	8.80	135	10.09
35	152	8.96	133	10.25
40	150	9.12	131	10.41
45	147	9.28	129	10.57
50	145	9.44	127	10.73
55	142	9.59	125	10.88
60	140	9.75	124	11.04
65	138	9.90	122	11.19
70	136	10.06	120	11.34
75	134	10.21	119	11.49
80	132	10.36	117	11.64
85	130	10.51	116	11.79
90	128	10.66	115	11.93
95	126	10.81	113	12.08
200	100	13.70	92	14.87

SAG & TENSION DATA
Secondary - #6 al duplex Vizsla
Rated Breaking Strength: 1100lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	555*	18.69	555	18.69
30	135	12.77	123	14.10
35	134	12.93	121	14.25
40	132	13.09	120	14.41
45	131	13.25	119	14.56
50	129	13.40	118	14.71
55	128	13.56	116	14.86
60	126	13.71	115	15.01
65	125	13.86	114	15.16
70	123	14.02	113	15.31
75	122	14.17	112	15.46
80	121	14.32	111	15.60
85	120	14.47	110	15.75
90	118	14.61	109	15.89
95	117	14.76	108	16.03
200	98	17.64	92	18.82

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	555*	23.12	555	23.12
30	124	17.26	115	18.58
35	123	17.41	114	18.73
40	122	17.57	113	18.88
45	121	17.72	113	19.03
50	120	17.87	112	19.18
55	119	18.02	111	19.33
60	118	18.17	110	19.47
65	117	18.32	109	19.62
70	116	18.47	108	19.77
75	115	18.62	108	19.91
80	114	18.77	107	20.05
85	113	18.91	106	20.19
90	112	19.06	105	20.34
95	112	19.20	105	20.48
200	97	22.07	92	23.26

SAG & TENSION DATA
Secondary - #6 al duplex Vizsla
Rated Breaking Strength: 1100lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	555.*	28.05	555	28.05
30	117	22.23	110	23.55
35	116	22.38	110	23.70
40	115	22.53	109	23.84
45	114	22.68	108	23.99
50	114	22.83	108	24.13
55	113	22.98	107	24.28
60	112	23.13	106	24.42
65	112	23.28	106	24.56
70	111	23.42	105	24.71
75	110	23.57	105	24.85
80	110	23.71	104	24.99
85	109	23.86	103	25.13
90	108	24.00	103	25.27
95	108	24.14	102	25.41
200	96	26.99	93	28.18

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Conductor Temp (°F)	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	555*	33.47	555	33.47
30	112	27.70	107	29.00
35	111	27.85	106	29.15
40	111	28.00	106	29.29
45	110	28.14	105	29.44
50	109	28.29	105	29.58
55	109	28.43	104	29.72
60	108	28.58	104	29.86
65	108	28.72	103	30.00
70	107	28.87	103	30.14
75	107	29.01	102	30.28
80	106	29.15	102	30.42
85	106	29.29	102	30.56
90	105	29.43	101	30.70
95	105	29.57	101	30.83
200	96	32.40	93	33.60

SAG & TENSION DATA
Secondary - #2 al duplex Schnauzer
Rated Breaking Strength: 2800lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1009	1.62	874	1.87
30	904	0.49	700*	0.63
35	880	0.50	672	0.66
40	857	0.52	643	0.69
45	833	0.53	615	0.72
50	809	0.55	588	0.75
55	785	0.56	560	0.79
60	762	0.58	534	0.83
65	738	0.60	507	0.87
70	714	0.62	481	0.92
75	691	0.64	456	0.97
80	668	0.66	432	1.02
85	645	0.69	409	1.08
90	621	0.71	386	1.14
95	599	0.74	365	1.21
200	235	1.88	148	2.99

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1068	2.72	953	3.04
30	904	0.87	700*	1.12
35	881	0.89	673	1.17
40	857	0.92	646	1.22
45	834	0.94	620	1.27
50	811	0.97	594	1.32
55	788	1.00	568	1.38
60	765	1.03	544	1.44
65	742	1.06	519	1.51
70	719	1.09	496	1.58
75	696	1.13	473	1.66
80	674	1.16	452	1.74
85	652	1.20	431	1.82
90	630	1.25	411	1.91
95	608	1.29	392	2.00
200	273	2.88	187	4.21

SAG & TENSION DATA
Secondary - #2 al duplex Schnauzer
Rated Breaking Strength: 2800lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1128	4.02	1030	4.40
30	903	1.36	700*	1.75
35	880	1.39	674	1.82
40	857	1.43	649	1.89
45	835	1.47	625	1.96
50	812	1.51	601	2.04
55	790	1.55	577	2.13
60	768	1.60	554	2.21
65	745	1.65	532	2.30
70	724	1.70	511	2.40
75	702	1.75	491	2.50
80	680	1.80	471	2.61
85	659	1.86	452	2.71
90	638	1.92	434	2.83
95	618	1.99	417	2.94
200	307	4.00	222	5.53

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1186	5.50	1104	5.92
30	900	1.96	700*	2.52
35	878	2.01	676	2.61
40	856	2.06	653	2.71
45	834	2.12	630	2.81
50	813	2.17	608	2.91
55	791	2.23	586	3.02
60	770	2.30	565	3.13
65	748	2.36	545	3.24
70	727	2.43	526	3.36
75	707	2.50	507	3.48
80	686	2.57	490	3.61
85	666	2.65	473	3.74
90	647	2.73	456	3.87
95	627	2.82	441	4.01
200	338	5.23	255	6.95

SAG & TENSION DATA
Secondary - #2 al duplex Schnauzer
Rated Breaking Strength: 2800lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1243	7.15	1173	7.58
30	896	2.68	700*	3.44
35	875	2.75	678	3.55
40	854	2.82	656	3.67
45	833	2.89	635	3.79
50	812	2.96	615	3.91
55	791	3.04	595	4.04
60	771	3.12	576	4.18
65	750	3.20	557	4.32
70	731	3.29	540	4.46
75	711	3.38	523	4.60
80	692	3.48	507	4.75
85	673	3.57	491	4.90
90	654	3.68	477	5.05
95	636	3.78	462	5.21
200	366	6.57	285	8.47

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1297	8.96	1238	9.39
30	891	3.53	700*	4.49
35	870	3.61	679	4.63
40	850	3.70	659	4.77
45	830	3.79	640	4.91
50	810	3.88	621	5.06
55	790	3.98	603	5.21
60	771	4.08	586	5.37
65	752	4.18	569	5.52
70	733	4.29	553	5.69
75	714	4.40	537	5.85
80	696	4.51	523	6.02
85	679	4.63	508	6.18
90	661	4.75	495	6.35
95	644	4.88	482	6.53
200	392	8.03	312	10.09

SAG & TENSION DATA
Secondary - #2 al duplex Schnauzer
Rated Breaking Strength: 2800lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1348	10.92	1300	11.32
30	885	4.50	700*	5.68
35	865	4.60	681	5.84
40	845	4.70	663	6.00
45	826	4.81	645	6.17
50	807	4.93	628	6.34
55	789	5.04	611	6.51
60	770	5.16	595	6.69
65	752	5.29	580	6.86
70	734	5.42	565	7.04
75	717	5.55	551	7.23
80	700	5.68	537	7.41
85	683	5.82	524	7.59
90	667	5.96	512	7.78
95	651	6.11	500	7.97
200	415	9.60	337	11.82

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1396	13.02	1358	13.38
30	877	5.60	700*	7.02
35	858	5.72	683	7.20
40	840	5.85	666	7.38
45	822	5.98	649	7.57
50	804	6.11	634	7.75
55	786	6.25	618	7.95
60	769	6.39	604	8.14
65	752	6.53	590	8.33
70	735	6.68	576	8.53
75	719	6.83	563	8.73
80	703	6.99	550	8.93
85	688	7.14	538	9.13
90	672	7.30	527	9.33
95	658	7.47	516	9.54
200	436	11.28	361	13.66

SAG & TENSION DATA
Secondary - #2 al duplex Schnauzer
Rated Breaking Strength: 2800lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1400*	15.71	1375	16.00
30	800	7.43	652	9.12
35	783	7.59	637	9.33
40	767	7.75	623	9.54
45	751	7.91	610	9.75
50	736	8.08	597	9.96
55	720	8.25	585	10.17
60	706	8.42	573	10.39
65	691	8.60	561	10.60
70	677	8.78	550	10.82
75	663	8.96	539	11.03
80	650	9.15	529	11.25
85	637	9.33	519	11.47
90	624	9.52	509	11.68
95	612	9.71	500	11.90
200	430	13.87	368	16.21

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1400*	18.72	1385	18.92
30	724	9.77	606	11.68
35	710	9.96	594	11.91
40	697	10.15	583	12.14
45	684	10.35	573	12.37
50	671	10.55	562	12.60
55	658	10.75	552	12.83
60	646	10.95	543	13.05
65	634	11.16	533	13.28
70	623	11.36	524	13.51
75	612	11.57	516	13.74
80	601	11.78	507	13.97
85	591	11.99	499	14.19
90	581	12.20	492	14.42
95	571	12.41	484	14.64
200	422	16.81	372	19.09

SAG & TENSION DATA
Secondary - #2 al triplex Solaster
Rated Breaking Strength: 1760lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	732	2.51	671	2.74
30	563	1.07	440*	1.37
35	547	1.11	424	1.43
40	531	1.14	408	1.48
45	516	1.17	393	1.54
50	501	1.21	378	1.60
55	486	1.25	364	1.66
60	471	1.28	351	1.72
65	456	1.33	338	1.79
70	442	1.37	326	1.86
75	428	1.41	314	1.93
80	415	1.46	303	2.00
85	401	1.51	293	2.07
90	389	1.56	283	2.14
95	376	1.61	274	2.21
200	206	2.93	164	3.69

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	795	4.11	747	4.38
30	555	1.94	440*	2.45
35	540	1.99	427	2.52
40	526	2.04	414	2.60
45	512	2.10	401	2.68
50	499	2.16	389	2.76
55	486	2.21	378	2.85
60	473	2.28	367	2.93
65	460	2.34	357	3.02
70	448	2.40	347	3.11
75	436	2.47	337	3.19
80	424	2.54	328	3.28
85	413	2.61	319	3.37
90	402	2.68	311	3.46
95	391	2.75	303	3.55
200	243	4.43	202	5.33

SAG & TENSION DATA
Secondary - #2 al triplex Solaster
Rated Breaking Strength: 1760lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	851	6.00	812	6.30
30	543	3.10	440*	3.82
35	531	3.17	429	3.92
40	518	3.24	418	4.02
45	506	3.32	408	4.12
50	495	3.40	398	4.22
55	483	3.48	389	4.32
60	472	3.56	380	4.43
65	461	3.65	372	4.53
70	451	3.73	363	4.63
75	441	3.82	355	4.74
80	431	3.91	348	4.84
85	421	3.99	341	4.94
90	412	4.08	334	5.05
95	403	4.18	327	5.15
200	274	6.16	234	7.20

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	880*	8.37	851	8.66
30	502	4.82	421	5.76
35	492	4.92	412	5.88
40	482	5.02	404	6.00
45	473	5.12	397	6.11
50	464	5.23	389	6.23
55	455	5.33	382	6.35
60	446	5.43	375	6.46
65	437	5.54	368	6.58
70	429	5.64	362	6.70
75	421	5.75	356	6.81
80	414	5.86	350	6.93
85	406	5.97	344	7.04
90	399	6.07	339	7.16
95	392	6.18	334	7.27
200	288	8.42	255	9.53

SAG & TENSION DATA
Secondary - #2 al triplex Solaster
Rated Breaking Strength: 1760lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	880*	11.41	861	11.67
30	440	7.50	385	8.57
35	433	7.62	380	8.70
40	426	7.74	374	8.83
45	420	7.87	369	8.95
50	413	7.99	364	9.08
55	407	8.11	359	9.20
60	401	8.23	354	9.33
65	396	8.35	350	9.45
70	390	8.47	345	9.58
75	385	8.59	341	9.70
80	379	8.71	337	9.82
85	374	8.83	332	9.94
90	369	8.95	329	10.07
95	364	9.07	325	10.19
200	289	11.46	264	12.56

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	880*	14.93	866	15.17
30	398	10.84	361	11.95
35	394	10.97	358	12.08
40	389	11.10	354	12.22
45	385	11.23	350	12.35
50	380	11.35	346	12.48
55	376	11.48	343	12.61
60	372	11.61	339	12.73
65	368	11.74	336	12.86
70	364	11.87	333	12.99
75	360	11.99	330	13.12
80	357	12.12	327	13.24
85	353	12.25	324	13.37
90	349	12.37	321	13.49
95	346	12.50	318	13.62
200	289	14.99	270	16.07

SAG & TENSION DATA
Secondary - #2 al triplex Solaster
Rated Breaking Strength: 1760lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	880*	18.94	870	19.15
30	371	14.74	345	15.87
35	368	14.88	342	16.00
40	365	15.01	340	16.14
45	362	15.14	337	16.27
50	358	15.28	334	16.40
55	355	15.41	332	16.53
60	352	15.54	329	16.66
65	350	15.67	327	16.79
70	347	15.80	324	16.92
75	344	15.93	322	17.05
80	341	16.06	319	17.18
85	339	16.19	317	17.30
90	336	16.32	315	17.43
95	333	16.44	313	17.56
200	289	18.99	274	20.06

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	880*	23.43	873	23.63
30	353	19.19	334	20.31
35	350	19.32	332	20.44
40	348	19.46	329	20.58
45	346	19.59	327	20.71
50	343	19.72	325	20.84
55	341	19.86	323	20.97
60	339	19.99	321	21.10
65	337	20.12	319	21.23
70	335	20.25	318	21.36
75	333	20.38	316	21.49
80	330	20.51	314	21.62
85	328	20.64	312	21.75
90	326	20.77	310	21.88
95	324	20.90	308	22.00
200	289	23.49	277	24.55

SAG & TENSION DATA
Secondary - #2 al triplex Solaster
Rated Breaking Strength: 1760lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	880*	28.42	874	28.61
30	340	24.15	325	25.27
35	338	24.29	324	25.40
40	336	24.42	322	25.53
45	335	24.56	320	25.66
50	333	24.69	319	25.80
55	331	24.82	317	25.93
60	329	24.95	316	26.06
65	328	25.09	314	26.19
70	326	25.22	313	26.32
75	324	25.35	311	26.45
80	323	25.48	310	26.58
85	321	25.61	308	26.71
90	320	25.74	307	26.83
95	318	25.87	305	26.96
200	290	28.48	279	29.54

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	880*	33.92	876	34.09
30	331	29.63	319	30.74
35	329	29.77	318	30.87
40	328	29.90	317	31.00
45	326	30.04	315	31.13
50	325	30.17	314	31.27
55	324	30.30	313	31.40
60	322	30.43	311	31.53
65	321	30.57	310	31.66
70	320	30.70	309	31.79
75	318	30.83	308	31.92
80	317	30.96	306	32.05
85	316	31.09	305	32.18
90	314	31.22	304	32.30
95	313	31.35	303	32.43
200	290	33.98	281	35.03

SAG & TENSION DATA
Secondary - 1/0 al triplex Echinus
Rated Breaking Strength: 2800lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1088	2.19	972	2.46
30	895	1.08	700*	1.38
35	870	1.11	674	1.43
40	845	1.14	649	1.49
45	821	1.18	625	1.54
50	796	1.21	602	1.60
55	773	1.25	580	1.67
60	749	1.29	558	1.73
65	726	1.33	538	1.79
70	703	1.37	519	1.86
75	681	1.42	500	1.93
80	660	1.46	483	2.00
85	639	1.51	466	2.07
90	618	1.56	451	2.14
95	599	1.61	436	2.22
200	329	2.94	262	3.69

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1163	3.65	1065	3.99
30	882	1.95	700*	2.45
35	859	2.00	679	2.53
40	837	2.05	658	2.61
45	815	2.11	638	2.69
50	794	2.16	620	2.77
55	773	2.22	601	2.85
60	752	2.28	584	2.94
65	732	2.34	568	3.03
70	712	2.41	552	3.11
75	693	2.48	537	3.20
80	675	2.54	522	3.29
85	657	2.61	509	3.38
90	640	2.68	496	3.47
95	623	2.76	483	3.56
200	388	4.43	323	5.34

SAG & TENSION DATA
Secondary - 1/0 al triplex Echinus
Rated Breaking Strength: 2800lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1230	5.40	1146	5.79
30	864	3.11	700*	3.83
35	844	3.18	683	3.93
40	824	3.25	666	4.03
45	805	3.33	650	4.13
50	787	3.41	634	4.23
55	768	3.49	619	4.33
60	751	3.57	605	4.44
65	734	3.66	591	4.54
70	717	3.74	578	4.64
75	701	3.83	566	4.75
80	685	3.92	554	4.85
85	670	4.01	542	4.95
90	655	4.10	531	5.06
95	641	4.19	520	5.16
200	436	6.17	373	7.21

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1287	7.43	1216	7.87
30	843	4.58	700*	5.52
35	826	4.68	686	5.64
40	809	4.77	672	5.75
45	793	4.87	659	5.87
50	777	4.97	646	5.99
55	762	5.07	634	6.10
60	747	5.17	622	6.22
65	733	5.28	610	6.34
70	719	5.38	599	6.46
75	705	5.48	589	6.57
80	692	5.59	578	6.69
85	679	5.69	569	6.80
90	667	5.80	559	6.92
95	655	5.91	550	7.04
200	475	8.16	416	9.32

SAG & TENSION DATA
Secondary - 1/0 al triplex Echinus
Rated Breaking Strength: 2800lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1337	9.75	1276	10.22
30	823	6.39	700*	7.52
35	809	6.51	688	7.65
40	795	6.62	677	7.78
45	781	6.74	666	7.91
50	768	6.85	655	8.04
55	755	6.97	645	8.17
60	743	7.09	635	8.30
65	730	7.21	625	8.43
70	719	7.33	616	8.55
75	707	7.45	607	8.68
80	696	7.57	598	8.81
85	685	7.69	590	8.94
90	675	7.81	582	9.06
95	664	7.93	574	9.19
200	507	10.41	453	11.67

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1380	12.34	1328	12.83
30	805	8.54	700*	9.83
35	793	8.67	690	9.97
40	782	8.80	681	10.11
45	770	8.93	671	10.25
50	759	9.06	662	10.39
55	748	9.19	654	10.53
60	738	9.33	645	10.67
65	727	9.46	637	10.81
70	718	9.59	629	10.94
75	708	9.72	622	11.08
80	698	9.85	614	11.22
85	689	9.99	607	11.35
90	680	10.12	600	11.49
95	672	10.25	593	11.62
200	534	12.93	483	14.29

SAG & TENSION DATA
Secondary - 1/0 al triplex Echinus
Rated Breaking Strength: 2800lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1400*	15.42	1357	15.92
30	771	11.30	686	12.70
35	761	11.44	679	12.85
40	752	11.58	671	13.00
45	743	11.73	663	13.15
50	734	11.87	656	13.29
55	726	12.01	649	13.44
60	717	12.15	642	13.58
65	709	12.30	636	13.73
70	701	12.44	629	13.87
75	693	12.58	623	14.02
80	685	12.72	616	14.16
85	678	12.86	610	14.30
90	671	13.00	604	14.44
95	664	13.14	599	14.58
200	547	15.97	503	17.38

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1400*	19.06	1365	19.56
30	729	14.78	664	16.24
35	721	14.93	658	16.39
40	714	15.08	652	16.54
45	707	15.23	646	16.69
50	700	15.38	640	16.85
55	694	15.53	635	17.00
60	687	15.68	629	17.14
65	681	15.83	624	17.29
70	674	15.98	619	17.44
75	668	16.13	613	17.59
80	662	16.27	608	17.74
85	657	16.42	604	17.88
90	651	16.57	599	18.03
95	645	16.71	594	18.17
200	550	19.64	514	21.05

SAG & TENSION DATA
Secondary - 1/0 al triplex Echinus
Rated Breaking Strength: 2800lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1400*	23.11	1371	23.60
30	697	18.72	647	20.20
35	692	18.87	642	20.36
40	686	19.03	637	20.51
45	681	19.18	632	20.66
50	675	19.34	628	20.82
55	670	19.49	623	20.97
60	665	19.64	619	21.12
65	660	19.79	615	21.27
70	655	19.95	610	21.42
75	650	20.10	606	21.57
80	645	20.25	602	21.72
85	640	20.40	598	21.87
90	636	20.55	594	22.02
95	631	20.70	590	22.17
200	553	23.69	522	25.12

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1400*	27.55	1376	28.04
30	674	23.09	633	24.58
35	669	23.25	630	24.74
40	665	23.40	626	24.90
45	661	23.56	622	25.05
50	656	23.72	618	25.21
55	652	23.87	614	25.36
60	648	24.03	611	25.51
65	644	24.18	607	25.67
70	640	24.34	604	25.82
75	636	24.49	600	25.97
80	632	24.64	597	26.12
85	628	24.79	594	26.27
90	624	24.95	590	26.42
95	621	25.10	587	26.57
200	555	28.15	529	29.57

SAG & TENSION DATA
Secondary - #2 quadruplex Belgian
Rated Breaking Strength: 2800lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1088	2.19	972	2.46
30	895	1.08	700*	1.38
35	870	1.11	674	1.43
40	845	1.14	649	1.49
45	821	1.18	625	1.54
50	796	1.21	602	1.60
55	773	1.25	580	1.67
60	749	1.29	558	1.73
65	726	1.33	538	1.79
70	703	1.37	519	1.86
75	681	1.42	500	1.93
80	660	1.46	483	2.00
85	639	1.51	466	2.07
90	618	1.56	451	2.14
95	599	1.61	436	2.22
200	329	2.94	262	3.69

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1163	0.37	1065	3.99
30	882	1.95	700*	2.45
35	859	2.00	679	2.53
40	837	2.05	658	2.61
45	815	2.11	638	2.69
50	794	2.16	620	2.77
55	773	2.22	601	2.85
60	752	2.28	584	2.94
65	732	2.34	568	3.03
70	712	2.41	552	3.11
75	693	2.48	537	3.20
80	675	2.54	522	3.29
85	657	2.61	509	3.38
90	640	2.68	496	3.47
95	623	2.76	483	3.56
200	388	4.43	323	5.34

SAG & TENSION DATA
Secondary - #2 quadruplex Belgian
Rated Breaking Strength: 2800lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1230	5.40	1146	5.79
30	864	3.11	700*	3.83
35	844	3.18	683	3.93
40	824	3.25	666	4.03
45	805	3.33	650	4.13
50	787	3.41	634	4.23
55	768	3.49	619	4.33
60	751	3.57	605	4.44
65	734	3.66	591	4.54
70	717	3.74	578	4.64
75	701	3.83	566	4.75
80	685	3.92	554	4.85
85	670	4.01	542	4.95
90	655	4.10	531	5.06
95	641	4.19	520	5.16
200	436	6.17	373	7.21

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1287	7.43	1216	7.87
30	843	4.58	700*	5.52
35	826	4.68	686	5.64
40	809	4.77	672	5.75
45	793	4.87	659	5.87
50	777	4.97	646	5.99
55	762	5.07	634	6.10
60	747	5.17	622	6.22
65	733	5.28	610	6.34
70	719	5.38	599	6.46
75	705	5.48	589	6.57
80	692	5.59	578	6.69
85	679	5.69	569	6.80
90	667	5.80	559	6.92
95	655	5.91	550	7.04
200	475	8.16	416	9.32

SAG & TENSION DATA
Secondary - #2 quadruplex Belgian
Rated Breaking Strength: 2800lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1337	9.75	1276	10.22
30	823	6.39	700.*	7.52
35	809	6.51	688	7.65
40	795	6.62	677	7.78
45	781	6.74	666	7.91
50	768	6.85	655	8.04
55	755	6.97	645	8.17
60	743	7.09	635	8.30
65	730	7.21	625	8.43
70	719	7.33	616	8.55
75	707	7.45	607	8.68
80	696	7.57	598	8.81
85	685	7.69	590	8.94
90	675	7.81	582	9.06
95	664	7.93	574	9.19
200	507	10.41	453	11.67

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1380	12.34	1328	12.83
30	805	8.54	700*	9.83
35	793	8.67	690	9.97
40	782	8.80	681	10.11
45	770	8.93	671	10.25
50	759	9.06	662	10.39
55	748	9.19	654	10.53
60	738	9.33	645	10.67
65	727	9.46	637	10.81
70	718	9.59	629	10.94
75	708	9.72	622	11.08
80	698	9.85	614	11.22
85	689	9.99	607	11.35
90	680	10.12	600	11.49
95	672	10.25	593	11.62
200	534	12.93	483	14.29

SAG & TENSION DATA
Secondary - #2 quadruplex Belgian
Rated Breaking Strength: 2800lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1400*	15.42	1357	15.92
30	771	11.30	686	12.70
35	761	11.44	679	12.85
40	752	11.58	671	13.00
45	743	11.73	663	13.15
50	734	11.87	656	13.29
55	726	12.01	649	13.44
60	717	12.15	642	13.58
65	709	12.30	636	13.73
70	701	12.44	629	13.87
75	693	12.58	623	14.02
80	685	12.72	616	14.16
85	678	12.86	610	14.30
90	671	13.00	604	14.44
95	664	13.14	599	14.58
200	547	15.97	503	17.38

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1400*	19.06	1365	19.56
30	729	14.78	664	16.24
35	721	14.93	658	16.39
40	714	15.08	652	16.54
45	707	15.23	646	16.69
50	700	15.38	640	16.85
55	694	15.53	635	17.00
60	687	15.68	629	17.14
65	681	15.83	624	17.29
70	674	15.98	619	17.44
75	668	16.13	613	17.59
80	662	16.27	608	17.74
85	657	16.42	604	17.88
90	651	16.57	599	18.03
95	645	16.71	594	18.17
200	550	19.64	514	21.05

SAG & TENSION DATA
Secondary - #2 quadruplex Belgian
Rated Breaking Strength: 2800lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1400*	23.11	1371	23.60
30	697	18.72	647	20.20
35	692	18.87	642	20.36
40	686	19.03	637	20.51
45	681	19.18	632	20.66
50	675	19.34	628	20.82
55	670	19.49	623	20.97
60	665	19.64	619	21.12
65	660	19.79	615	21.27
70	655	19.95	610	21.42
75	650	20.10	606	21.57
80	645	20.25	602	21.72
85	640	20.40	598	21.87
90	636	20.55	594	22.02
95	631	20.70	590	22.17
200	553	23.69	522	25.12

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1400*	27.55	1376	28.04
30	674	23.09	633	24.58
35	669	23.25	630	24.74
40	665	23.40	626	24.90
45	661	23.56	622	25.05
50	656	23.72	618	25.21
55	652	23.87	614	25.36
60	648	24.03	611	25.51
65	644	24.18	607	25.67
70	640	24.34	604	25.82
75	636	24.49	600	25.97
80	632	24.64	597	26.12
85	628	24.79	594	26.27
90	624	24.95	590	26.42
95	621	25.10	587	26.57
200	555	28.15	529	29.57

SAG & TENSION DATA
Secondary - 1/0 al quadruplex Shetland
Rated Breaking Strength: 4460lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1615	1.81	1394	2.10
30	1428	1.03	1115*	1.32
35	1387	1.06	1073	1.37
40	1347	1.09	1032	1.42
45	1308	1.12	993	1.48
50	1268	1.16	955	1.54
55	1230	1.19	918	1.60
60	1192	1.23	883	1.66
65	1155	1.27	850	1.73
70	1118	1.31	818	1.80
75	1082	1.36	788	1.86
80	1047	1.40	760	1.93
85	1013	1.45	733	2.01
90	980	1.50	707	2.08
95	948	1.55	683	2.15
200	510	2.88	404	3.65

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1693	3.07	1500	3.47
30	1410	1.85	1115*	2.34
35	1373	1.90	1080	2.42
40	1336	1.95	1046	2.50
45	1301	2.01	1013	2.58
50	1266	2.06	982	2.66
55	1231	2.12	952	2.74
60	1198	2.18	924	2.83
65	1165	2.24	896	2.92
70	1133	2.31	870	3.00
75	1102	2.37	845	3.09
80	1072	2.44	822	3.18
85	1042	2.51	799	3.27
90	1014	2.58	778	3.36
95	986	2.65	758	3.45
200	603	4.34	498	5.26

SAG & TENSION DATA
Secondary - 1/0 al quadruplex Shetland
Rated Breaking Strength: 4460lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1762	4.61	1593	5.11
30	1383	2.95	1115*	3.66
35	1350	3.02	1086	3.76
40	1318	3.10	1058	3.86
45	1287	3.17	1031	3.96
50	1256	3.25	1005	4.06
55	1226	3.33	981	4.16
60	1197	3.41	957	4.27
65	1169	3.49	934	4.37
70	1141	3.58	912	4.48
75	1114	3.66	892	4.58
80	1088	3.75	872	4.69
85	1063	3.84	853	4.79
90	1039	3.93	834	4.90
95	1016	4.02	817	5.00
200	679	6.03	578	7.09

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1822	6.43	1672	7.01
30	1352	4.35	1115*	5.28
35	1323	4.44	1091	5.39
40	1296	4.54	1068	5.51
45	1269	4.63	1046	5.63
50	1242	4.73	1024	5.75
55	1217	4.83	1004	5.86
60	1192	4.93	984	5.98
65	1168	5.04	965	6.10
70	1144	5.14	946	6.22
75	1122	5.24	929	6.34
80	1100	5.35	912	6.46
85	1078	5.46	895	6.57
90	1058	5.56	880	6.69
95	1038	5.67	865	6.81
200	741	7.95	646	9.14

SAG & TENSION DATA
Secondary - 1/0 al quadruplex Shetland
Rated Breaking Strength: 4460lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1872	8.52	1740	9.18
30	1321	6.06	1115*	7.18
35	1297	6.17	1095	7.32
40	1273	6.29	1076	7.45
45	1250	6.40	1057	7.58
50	1228	6.52	1039	7.71
55	1206	6.64	1022	7.84
60	1185	6.76	1005	7.97
65	1165	6.88	989	8.10
70	1145	7.00	973	8.24
75	1126	7.12	958	8.37
80	1107	7.24	944	8.50
85	1089	7.36	930	8.62
90	1071	7.48	916	8.75
95	1054	7.60	903	8.88
200	793	10.13	704	11.42

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1915	10.89	1798	11.61
30	1292	8.10	1115*	9.39
35	1272	8.23	1098	9.53
40	1252	8.36	1082	9.68
45	1233	8.49	1067	9.82
50	1214	8.62	1051	9.96
55	1196	8.75	1037	10.10
60	1178	8.89	1022	10.25
65	1161	9.02	1009	10.39
70	1144	9.15	995	10.53
75	1127	9.29	982	10.67
80	1111	9.42	970	10.81
85	1096	9.56	958	10.95
90	1081	9.69	946	11.08
95	1066	9.82	934	11.22
200	836	12.56	753	13.95

SAG & TENSION DATA
Secondary - 1/0 al quadruplex Shetland
Rated Breaking Strength: 4460lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1952	13.54	1848	14.31
30	1267	10.45	1115*	11.89
35	1250	10.60	1101	12.05
40	1234	10.74	1087	12.20
45	1217	10.89	1074	12.35
50	1201	11.03	1061	12.50
55	1186	11.18	1049	12.65
60	1171	11.32	1036	12.80
65	1156	11.47	1025	12.95
70	1142	11.61	1013	13.10
75	1128	11.76	1002	13.25
80	1114	11.90	991	13.40
85	1101	12.05	980	13.55
90	1088	12.19	970	13.69
95	1075	12.34	960	13.84
200	872	15.25	796	16.73

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1983	16.47	1891	17.28
30	1246	13.14	1115*	14.70
35	1232	13.30	1103	14.86
40	1217	13.45	1091	15.02
45	1204	13.61	1080	15.18
50	1190	13.76	1069	15.34
55	1177	13.92	1058	15.49
60	1164	14.07	1048	15.65
65	1152	14.23	1037	15.81
70	1139	14.38	1027	15.96
75	1128	14.53	1018	16.12
80	1116	14.69	1008	16.27
85	1104	14.84	999	16.43
90	1093	14.99	990	16.58
95	1082	15.14	981	16.73
200	902	18.22	832	19.77

SAG & TENSION DATA
Secondary - 1/0 al quadruplex Shetland
Rated Breaking Strength: 4460lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2010	19.68	1927	20.53
30	1228	16.15	1115*	17.80
35	1216	16.31	1105	17.97
40	1204	16.47	1095	18.13
45	1192	16.64	1085	18.30
50	1181	16.80	1075	18.46
55	1169	16.96	1066	18.63
60	1158	17.13	1057	18.79
65	1148	17.29	1048	18.95
70	1137	17.45	1039	19.12
75	1127	17.61	1031	19.28
80	1117	17.77	1022	19.44
85	1107	17.93	1014	19.60
90	1097	18.09	1006	19.76
95	1088	18.25	998	19.91
200	927	21.46	863	23.08

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2033	23.19	1959	24.07
30	1213	19.47	1115*	21.21
35	1203	19.64	1106	21.38
40	1192	19.81	1097	21.55
45	1182	19.98	1089	21.72
50	1172	20.15	1081	21.89
55	1163	20.32	1072	22.06
60	1153	20.49	1064	22.23
65	1144	20.66	1057	22.40
70	1135	20.83	1049	22.56
75	1126	21.00	1041	22.73
80	1117	21.16	1034	22.89
85	1109	21.33	1027	23.06
90	1100	21.49	1020	23.22
95	1092	21.66	1013	23.39
200	949	24.98	890	26.66

SAG & TENSION DATA
Secondary - 2/0 al quadruplex Thoroughbred
Rated Breaking Strength: 5390lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1921	1.72	1644	2.01
30	1722	1.05	1348*	1.34
35	1672	1.08	1296	1.40
40	1622	1.12	1245	1.45
45	1573	1.15	1197	1.51
50	1524	1.19	1151	1.57
55	1476	1.23	1106	1.64
60	1429	1.27	1064	1.70
65	1383	1.31	1023	1.77
70	1338	1.35	985	1.84
75	1294	1.40	948	1.91
80	1251	1.45	914	1.98
85	1210	1.50	882	2.05
90	1170	1.55	851	2.13
95	1131	1.60	822	2.20
200	612	2.96	490	3.70

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2001	2.94	1757	3.35
30	1699	1.89	1347*	2.39
35	1653	1.95	1305	2.47
40	1608	2.00	1263	2.55
45	1564	2.06	1224	2.63
50	1521	2.12	1186	2.71
55	1479	2.18	1150	2.80
60	1438	2.24	1115	2.89
65	1398	2.30	1082	2.97
70	1359	2.37	1051	3.06
75	1321	2.44	1021	3.15
80	1284	2.51	992	3.24
85	1248	2.58	965	3.34
90	1214	2.65	940	3.43
95	1181	2.73	915	3.52
200	726	4.44	606	5.33

SAG & TENSION DATA
Secondary - 2/0 al quadruplex Thoroughbred
Rated Breaking Strength: 5390lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2070	4.44	1854	4.96
30	1664	3.02	1347*	3.73
35	1624	3.10	1312	3.83
40	1585	3.17	1278	3.93
45	1546	3.25	1246	4.04
50	1509	3.33	1215	4.14
55	1473	3.41	1185	4.25
60	1437	3.50	1157	4.35
65	1403	3.58	1129	4.46
70	1370	3.67	1103	4.56
75	1338	3.76	1078	4.67
80	1306	3.85	1055	4.77
85	1276	3.94	1032	4.88
90	1247	4.03	1010	4.98
95	1219	4.13	989	5.09
200	819	6.15	703	7.17

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2127	6.23	1937	6.84
30	1625	4.46	1348*	5.38
35	1591	4.55	1319	5.50
40	1557	4.65	1291	5.61
45	1525	4.75	1264	5.73
50	1493	4.85	1238	5.85
55	1462	4.95	1214	5.97
60	1432	5.06	1190	6.09
65	1403	5.16	1167	6.21
70	1375	5.27	1145	6.33
75	1348	5.38	1124	6.45
80	1321	5.48	1104	6.57
85	1296	5.59	1084	6.69
90	1271	5.70	1066	6.81
95	1247	5.81	1048	6.92
200	896	8.10	786	9.25

SAG & TENSION DATA
Secondary - 2/0 al quadruplex Thoroughbred
Rated Breaking Strength: 5390lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2175	8.29	2007	8.99
30	1587	6.21	1348*	7.32
35	1558	6.33	1324	7.46
40	1530	6.45	1301	7.59
45	1502	6.57	1278	7.72
50	1476	6.69	1257	7.85
55	1450	6.81	1236	7.99
60	1425	6.93	1216	8.12
65	1400	7.05	1197	8.25
70	1376	7.17	1179	8.38
75	1353	7.29	1161	8.51
80	1331	7.41	1143	8.64
85	1310	7.54	1126	8.77
90	1289	7.66	1110	8.90
95	1268	7.78	1095	9.03
200	959	10.31	857	11.56

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2215	10.65	2066	11.42
30	1553	8.30	1348*	9.57
35	1528	8.43	1328	9.72
40	1505	8.57	1308	9.86
45	1482	8.70	1290	10.00
50	1459	8.84	1272	10.15
55	1437	8.97	1254	10.29
60	1416	9.11	1237	10.43
65	1396	9.24	1221	10.57
70	1376	9.38	1205	10.71
75	1356	9.51	1190	10.85
80	1337	9.64	1175	10.99
85	1319	9.78	1160	11.13
90	1301	9.91	1146	11.27
95	1284	10.05	1132	11.41
200	1012	12.78	917	14.12

SAG & TENSION DATA
Secondary - 2/0 al quadruplex Thoroughbred
Rated Breaking Strength: 5390lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2248	13.29	2116	14.13
30	1523	10.72	1347*	12.13
35	1502	10.87	1331	12.28
40	1483	11.01	1315	12.43
45	1463	11.16	1299	12.58
50	1444	11.31	1284	12.73
55	1426	11.45	1269	12.88
60	1408	11.60	1254	13.03
65	1391	11.74	1240	13.18
70	1374	11.89	1226	13.33
75	1358	12.03	1213	13.48
80	1342	12.18	1200	13.63
85	1326	12.32	1188	13.77
90	1311	12.47	1175	13.92
95	1296	12.61	1163	14.06
200	1055	15.52	968	16.94

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2275	16.22	2158	17.11
30	1497	13.47	1348*	14.98
35	1480	13.63	1333	15.14
40	1464	13.78	1320	15.30
45	1448	13.94	1306	15.46
50	1432	14.09	1293	15.62
55	1416	14.25	1280	15.78
60	1401	14.40	1268	15.93
65	1386	14.56	1256	16.09
70	1372	14.71	1244	16.25
75	1358	14.87	1232	16.40
80	1344	15.02	1221	16.55
85	1331	15.17	1210	16.71
90	1318	15.33	1199	16.86
95	1305	15.48	1189	17.01
200	1092	18.54	1012	20.03

SAG & TENSION DATA
Secondary - 2/0 al quadruplex Thoroughbred
Rated Breaking Strength: 5390lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2298	19.45	2194	20.39
30	1476	16.55	1348*	18.15
35	1462	16.71	1335	18.31
40	1448	16.88	1324	18.48
45	1434	17.04	1312	18.64
50	1421	17.20	1301	18.81
55	1408	17.36	1290	18.97
60	1395	17.53	1279	19.13
65	1382	17.69	1268	19.30
70	1370	17.85	1258	19.46
75	1358	18.01	1248	19.62
80	1346	18.17	1238	19.78
85	1334	18.33	1228	19.93
90	1323	18.49	1219	20.09
95	1312	18.65	1209	20.25
200	1123	21.83	1050	23.39

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2318	22.98	2224	23.96
30	1459	19.95	1348*	21.62
35	1447	20.12	1337	21.79
40	1435	20.29	1327	21.96
45	1423	20.46	1317	22.13
50	1412	20.63	1307	22.30
55	1400	20.80	1297	22.47
60	1389	20.96	1288	22.64
65	1378	21.13	1279	22.80
70	1368	21.30	1270	22.97
75	1357	21.46	1261	23.13
80	1347	21.63	1252	23.30
85	1337	21.79	1243	23.46
90	1327	21.96	1235	23.62
95	1317	22.12	1227	23.78
200	1149	25.42	1082	27.03

SAG & TENSION DATA
Secondary - 4/0 al quadruplex Walking
Rated Breaking Strength: 8560lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2934	1.48	2447	1.77
30	2738	1.01	2140*	1.29
35	2657	1.04	2056	1.35
40	2577	1.07	1975	1.40
45	2498	1.11	1896	1.46
50	2420	1.14	1821	1.52
55	2343	1.18	1748	1.58
60	2267	1.22	1679	1.65
65	2193	1.26	1613	1.71
70	2121	1.30	1551	1.78
75	2050	1.35	1492	1.85
80	1981	1.40	1436	1.93
85	1913	1.45	1383	2.00
90	1848	1.50	1333	2.08
95	1785	1.55	1287	2.15
200	949	2.92	756	3.67

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3012	2.56	2573	2.99
30	2705	1.82	2140*	2.30
35	2631	1.87	2070	2.38
40	2558	1.92	2002	2.46
45	2487	1.98	1937	2.54
50	2417	2.03	1875	2.62
55	2349	2.09	1816	2.71
60	2282	2.15	1759	2.80
65	2217	2.22	1706	2.88
70	2154	2.28	1654	2.97
75	2092	2.35	1605	3.07
80	2032	2.42	1559	3.16
85	1975	2.49	1515	3.25
90	1919	2.56	1473	3.34
95	1865	2.64	1434	3.43
200	1128	4.37	936	5.27

SAG & TENSION DATA
Secondary - 4/0 al quadruplex Walking
Rated Breaking Strength: 8560lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3076	3.91	2684	4.49
30	2654	2.90	2140*	3.59
35	2589	2.97	2082	3.69
40	2525	3.04	2026	3.79
45	2462	3.12	1973	3.90
50	2401	3.20	1922	4.00
55	2341	3.28	1873	4.11
60	2284	3.37	1826	4.21
65	2228	3.45	1781	4.32
70	2173	3.54	1738	4.43
75	2120	3.63	1697	4.53
80	2069	3.72	1658	4.64
85	2020	3.81	1621	4.75
90	1972	3.90	1585	4.85
95	1926	3.99	1551	4.96
200	1276	6.04	1090	7.08

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3127	5.55	2778	6.24
30	2595	4.27	2140*	5.18
35	2539	4.36	2092	5.29
40	2483	4.46	2046	5.41
45	2429	4.56	2002	5.53
50	2377	4.66	1959	5.66
55	2326	4.76	1918	5.78
60	2277	4.86	1879	5.90
65	2229	4.97	1841	6.02
70	2182	5.07	1805	6.14
75	2138	5.18	1770	6.26
80	2094	5.29	1737	6.38
85	2052	5.40	1705	6.50
90	2011	5.51	1674	6.62
95	1972	5.62	1645	6.74
200	1398	7.94	1221	9.10

SAG & TENSION DATA
Secondary - 4/0 al quadruplex Walking
Rated Breaking Strength: 8560lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3166	7.46	2858	8.27
30	2536	5.94	2140*	7.05
35	2488	6.06	2100	7.18
40	2441	6.18	2062	7.32
45	2395	6.30	2025	7.45
50	2351	6.41	1989	7.59
55	2308	6.54	1955	7.72
60	2266	6.66	1922	7.85
65	2225	6.78	1890	7.99
70	2186	6.90	1859	8.12
75	2148	7.02	1829	8.25
80	2111	7.15	1801	8.39
85	2075	7.27	1773	8.52
90	2040	7.40	1746	8.65
95	2007	7.52	1720	8.78
200	1499	10.09	1333	11.35

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3198	9.65	2924	10.56
30	2482	7.94	2140*	9.21
35	2441	8.07	2107	9.36
40	2401	8.21	2075	9.51
45	2362	8.34	2043	9.65
50	2325	8.48	2013	9.80
55	2289	8.61	1984	9.94
60	2253	8.75	1956	10.09
65	2219	8.88	1929	10.23
70	2185	9.02	1902	10.37
75	2153	9.16	1877	10.52
80	2122	9.29	1852	10.66
85	2091	9.43	1828	10.80
90	2061	9.57	1804	10.94
95	2033	9.70	1782	11.08
200	1583	12.48	1429	13.85

SAG & TENSION DATA
Secondary - 4/0 al quadruplex Walking
Rated Breaking Strength: 8560lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3222	12.13	2980	13.13
30	2433	10.25	2140*	11.67
35	2399	10.40	2112	11.82
40	2366	10.55	2085	11.98
45	2333	10.70	2058	12.14
50	2302	10.84	2033	12.29
55	2271	10.99	2008	12.44
60	2241	11.14	1984	12.60
65	2212	11.29	1960	12.75
70	2183	11.44	1937	12.90
75	2156	11.58	1915	13.05
80	2129	11.73	1893	13.20
85	2103	11.88	1872	13.35
90	2077	12.03	1852	13.50
95	2052	12.17	1832	13.65
200	1654	15.13	1511	16.58

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3242	14.90	3027	15.97
30	2392	12.89	2140*	14.42
35	2363	13.04	2116	14.58
40	2335	13.20	2093	14.75
45	2308	13.36	2070	14.91
50	2281	13.52	2048	15.07
55	2255	13.68	2027	15.23
60	2229	13.84	2006	15.39
65	2204	13.99	1986	15.55
70	2180	14.15	1966	15.71
75	2156	14.31	1946	15.87
80	2133	14.46	1927	16.02
85	2111	14.62	1909	16.18
90	2089	14.77	1891	16.34
95	2067	14.93	1873	16.49
200	1714	18.05	1582	19.57

SAG & TENSION DATA
Secondary - 4/0 al quadruplex Walking
Rated Breaking Strength: 8560lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3258	17.96	3066	19.09
30	2358	15.83	2140*	17.46
35	2333	16.00	2120	17.63
40	2309	16.17	2100	17.80
45	2286	16.34	2080	17.97
50	2263	16.50	2061	18.14
55	2241	16.67	2042	18.31
60	2219	16.83	2024	18.47
65	2198	17.00	2007	18.64
70	2177	17.16	1989	18.80
75	2156	17.33	1972	18.97
80	2136	17.49	1956	19.13
85	2117	17.65	1939	19.29
90	2098	17.82	1923	19.45
95	2079	17.98	1908	19.62
200	1764	21.24	1643	22.83

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	3271	21.31	3100	22.50
30	2329	19.10	2140*	20.80
35	2308	19.27	2122	20.98
40	2288	19.45	2105	21.15
45	2268	19.62	2088	21.33
50	2248	19.79	2072	21.50
55	2229	19.96	2055	21.67
60	2210	20.14	2039	21.84
65	2192	20.31	2024	22.01
70	2174	20.48	2009	22.18
75	2156	20.65	1994	22.35
80	2139	20.82	1979	22.52
85	2122	20.99	1964	22.69
90	2105	21.15	1950	22.86
95	2089	21.32	1936	23.02
200	1807	24.70	1696	26.35

SAG & TENSION DATA
Secondary - 2/0 al PAP Mesa Verde
Rated Breaking Strength: 5390lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1592	1.45	1332	1.74
30	1480	0.94	1155*	1.21
35	1436	0.97	1108	1.26
40	1392	1.00	1063	1.31
45	1348	1.03	1019	1.37
50	1305	1.07	976	1.43
55	1263	1.10	936	1.49
60	1221	1.14	897	1.55
65	1180	1.18	860	1.62
70	1140	1.22	825	1.69
75	1101	1.26	791	1.76
80	1063	1.31	760	1.83
85	1026	1.36	730	1.91
90	989	1.41	703	1.98
95	954	1.46	677	2.06
200	490	2.84	387	3.61

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1642	2.51	1407	2.93
30	1466	1.69	1155*	2.14
35	1425	1.74	1115	2.22
40	1385	1.79	1077	2.30
45	1345	1.84	1040	2.38
50	1306	1.90	1005	2.47
55	1268	1.95	971	2.55
60	1231	2.01	939	2.64
65	1194	2.07	908	2.73
70	1159	2.14	879	2.82
75	1124	2.20	851	2.91
80	1091	2.27	825	3.00
85	1058	2.34	800	3.10
90	1027	2.41	777	3.19
95	996	2.49	755	3.28
200	585	4.24	481	5.16

SAG & TENSION DATA
Secondary - 2/0 al PAP Mesa Verde
Rated Breaking Strength: 5390lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1685	3.82	1473	4.37
30	1442	2.68	1155*	3.35
35	1406	2.75	1122	3.45
40	1369	2.83	1090	3.55
45	1334	2.90	1059	3.66
50	1300	2.98	1029	3.76
55	1266	3.06	1001	3.87
60	1233	3.14	974	3.97
65	1201	3.22	949	4.08
70	1170	3.31	924	4.19
75	1140	3.39	901	4.30
80	1111	3.48	878	4.41
85	1083	3.57	857	4.52
90	1056	3.67	837	4.63
95	1030	3.76	818	4.74
200	664	5.84	562	6.91

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1720	5.38	1531	6.05
30	1414	3.94	1155*	4.83
35	1381	4.04	1127	4.95
40	1350	4.13	1100	5.07
45	1319	4.23	1074	5.19
50	1289	4.33	1050	5.31
55	1259	4.43	1026	5.44
60	1231	4.53	1003	5.56
65	1203	4.63	982	5.68
70	1177	4.74	961	5.81
75	1151	4.85	941	5.93
80	1126	4.95	922	6.06
85	1102	5.06	903	6.18
90	1078	5.17	886	6.30
95	1055	5.28	869	6.43
200	730	7.66	632	8.85

SAG & TENSION DATA
Secondary - 2/0 al PAP Mesa Verde
Rated Breaking Strength: 5390lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1750	7.21	1581	7.99
30	1384	5.48	1155*	6.57
35	1356	5.60	1132	6.71
40	1328	5.72	1109	6.85
45	1301	5.83	1087	6.99
50	1276	5.95	1066	7.12
55	1250	6.07	1046	7.26
60	1226	6.19	1027	7.40
65	1202	6.32	1008	7.53
70	1179	6.44	991	7.67
75	1157	6.56	973	7.81
80	1136	6.69	957	7.94
85	1115	6.81	941	8.08
90	1095	6.94	925	8.22
95	1075	7.07	911	8.35
200	785	9.70	692	11.00

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1774	9.29	1623	10.16
30	1355	7.32	1155*	8.59
35	1331	7.45	1135	8.74
40	1307	7.59	1116	8.89
45	1284	7.72	1098	9.04
50	1262	7.86	1080	9.19
55	1241	8.00	1063	9.34
60	1220	8.13	1046	9.49
65	1200	8.27	1030	9.64
70	1180	8.41	1015	9.79
75	1161	8.55	1000	9.93
80	1142	8.69	985	10.08
85	1124	8.83	971	10.23
90	1107	8.97	958	10.37
95	1090	9.11	945	10.52
200	831	11.97	745	13.37

SAG & TENSION DATA
Secondary - 2/0 al PAP Mesa Verde
Rated Breaking Strength: 5390lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1794	11.64	1659	12.60
30	1329	9.45	1155*	10.88
35	1308	9.60	1138	11.04
40	1288	9.75	1122	11.20
45	1269	9.90	1106	11.36
50	1250	10.05	1091	11.52
55	1231	10.20	1076	11.68
60	1214	10.35	1062	11.84
65	1196	10.51	1048	12.00
70	1179	10.66	1035	12.16
75	1163	10.81	1022	12.31
80	1147	10.96	1009	12.47
85	1131	11.11	997	12.62
90	1116	11.26	985	12.78
95	1102	11.41	973	12.93
200	871	14.47	790	15.97

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1811	14.25	1690	15.28
30	1306	11.88	1155*	13.44
35	1288	12.04	1141	13.61
40	1271	12.21	1127	13.78
45	1255	12.37	1113	13.95
50	1238	12.53	1100	14.12
55	1223	12.69	1087	14.29
60	1207	12.86	1075	14.46
65	1192	13.02	1063	14.62
70	1178	13.18	1051	14.79
75	1164	13.34	1040	14.95
80	1150	13.50	1028	15.11
85	1137	13.66	1018	15.28
90	1123	13.82	1007	15.44
95	1111	13.98	997	15.60
200	904	17.22	829	18.80

SAG & TENSION DATA
Secondary - 2/0 al PAP Mesa Verde
Rated Breaking Strength: 5390lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1825	17.12	1716	18.22
30	1286	14.61	1155*	16.28
35	1271	14.78	1143	16.46
40	1257	14.95	1131	16.64
45	1242	15.13	1119	16.81
50	1229	15.30	1107	16.99
55	1215	15.47	1096	17.16
60	1202	15.64	1085	17.33
65	1189	15.81	1075	17.51
70	1176	15.98	1065	17.68
75	1164	16.15	1054	17.85
80	1152	16.32	1045	18.02
85	1140	16.49	1035	18.19
90	1129	16.66	1026	18.36
95	1118	16.83	1016	18.53
200	933	20.21	863	21.87

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	1836	20.27	1738	21.42
30	1269	17.63	1155*	19.39
35	1257	17.81	1144	19.58
40	1244	17.99	1134	19.76
45	1232	18.17	1124	19.94
50	1220	18.35	1114	20.12
55	1208	18.53	1104	20.30
60	1197	18.71	1094	20.48
65	1186	18.89	1085	20.66
70	1175	19.07	1076	20.84
75	1164	19.24	1067	21.02
80	1153	19.42	1058	21.19
85	1143	19.60	1050	21.37
90	1133	19.77	1041	21.54
95	1123	19.95	1033	21.72
200	957	23.46	893	25.18

SAG & TENSION DATA
Secondary - 4/0 al PAP Vicksburg
Rated Breaking Strength: 8560lbs

RULING SPAN - **150** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2449	1.20	1994	1.47
30	2353	0.88	1835*	1.13
35	2282	0.91	1758	1.18
40	2211	0.94	1684	1.24
45	2141	0.97	1612	1.29
50	2072	1.01	1543	1.35
55	2003	1.04	1476	1.41
60	1936	1.08	1412	1.48
65	1869	1.11	1351	1.54
70	1804	1.15	1293	1.61
75	1741	1.20	1238	1.68
80	1679	1.24	1186	1.76
85	1618	1.29	1138	1.83
90	1559	1.34	1092	1.91
95	1502	1.39	1049	1.99
200	749	2.78	585	3.57

RULING SPAN - **200** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2490	2.10	2069	2.53
30	2336	1.58	1835*	2.02
35	2269	1.63	1769	2.09
40	2204	1.68	1706	2.17
45	2139	1.73	1645	2.25
50	2076	1.78	1586	2.33
55	2013	1.84	1530	2.42
60	1952	1.90	1477	2.51
65	1893	1.96	1426	2.60
70	1834	2.02	1377	2.69
75	1778	2.08	1332	2.78
80	1723	2.15	1288	2.88
85	1669	2.22	1247	2.97
90	1618	2.29	1208	3.07
95	1568	2.36	1172	3.16
200	896	4.14	731	5.08

SAG & TENSION DATA
Secondary - 4/0 al PAP Vicksburg
Rated Breaking Strength: 8560lbs

RULING SPAN - **250** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2522	3.24	2137	3.82
30	2304	2.51	1835*	3.15
35	2243	2.58	1779	3.25
40	2184	2.65	1725	3.35
45	2125	2.72	1674	3.46
50	2068	2.80	1624	3.56
55	2013	2.87	1577	3.67
60	1958	2.95	1532	3.78
65	1906	3.04	1489	3.89
70	1854	3.12	1448	4.00
75	1805	3.21	1409	4.11
80	1756	3.30	1372	4.22
85	1710	3.39	1337	4.33
90	1665	3.48	1303	4.44
95	1621	3.57	1271	4.56
200	1020	5.69	857	6.78

RULING SPAN - **300** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2546	4.62	2197	5.36
30	2263	3.68	1835*	4.54
35	2208	3.77	1788	4.66
40	2156	3.87	1742	4.79
45	2104	3.96	1699	4.91
50	2054	4.06	1657	5.03
55	2005	4.16	1617	5.16
60	1957	4.26	1579	5.28
65	1911	4.36	1542	5.41
70	1866	4.47	1507	5.54
75	1823	4.57	1473	5.66
80	1781	4.68	1441	5.79
85	1740	4.79	1411	5.91
90	1701	4.90	1381	6.04
95	1663	5.01	1353	6.17
200	1124	7.43	966	8.65

SAG & TENSION DATA
Secondary - 4/0 al PAP Vicksburg
Rated Breaking Strength: 8560lbs

RULING SPAN - **350** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2563	6.25	2249	7.13
30	2218	5.12	1835*	6.19
35	2170	5.23	1795	6.32
40	2124	5.34	1757	6.46
45	2079	5.46	1720	6.60
50	2035	5.58	1684	6.74
55	1992	5.70	1650	6.88
60	1951	5.82	1617	7.02
65	1911	5.94	1586	7.16
70	1872	6.06	1555	7.30
75	1834	6.19	1526	7.44
80	1798	6.31	1498	7.58
85	1763	6.44	1471	7.72
90	1729	6.57	1445	7.86
95	1696	6.70	1421	8.00
200	1212	9.38	1062	10.72

RULING SPAN - **400** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2575	8.13	2293	9.14
30	2174	6.82	1835*	8.08
35	2132	6.95	1801	8.24
40	2092	7.09	1768	8.39
45	2053	7.22	1737	8.54
50	2015	7.36	1706	8.70
55	1978	7.50	1677	8.85
60	1942	7.64	1649	9.00
65	1908	7.77	1621	9.16
70	1874	7.91	1595	9.31
75	1842	8.05	1570	9.46
80	1810	8.20	1545	9.61
85	1779	8.34	1521	9.76
90	1750	8.48	1499	9.91
95	1721	8.62	1477	10.06
200	1287	11.55	1145	13.00

SAG & TENSION DATA
Secondary - 4/0 al PAP Vicksburg
Rated Breaking Strength: 8560lbs

RULING SPAN - **450** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2582	10.27	2330	11.39
30	2132	8.80	1835*	10.24
35	2097	8.95	1806	10.40
40	2062	9.11	1778	10.57
45	2028	9.26	1751	10.73
50	1996	9.41	1725	10.90
55	1964	9.56	1699	11.06
60	1933	9.72	1675	11.22
65	1903	9.87	1651	11.39
70	1874	10.02	1628	11.55
75	1846	10.18	1606	11.71
80	1818	10.33	1584	11.87
85	1792	10.49	1563	12.03
90	1766	10.64	1543	12.19
95	1741	10.79	1523	12.35
200	1351	13.94	1218	15.48

RULING SPAN - **500** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2588	12.66	2362	13.88
30	2095	11.07	1835*	12.65
35	2065	11.23	1810	12.82
40	2035	11.40	1786	13.00
45	2006	11.56	1762	13.17
50	1978	11.73	1740	13.35
55	1950	11.89	1718	13.52
60	1924	12.06	1696	13.69
65	1898	12.23	1675	13.86
70	1873	12.39	1655	14.03
75	1848	12.56	1635	14.20
80	1824	12.72	1616	14.37
85	1801	12.89	1598	14.54
90	1778	13.05	1580	14.71
95	1756	13.22	1562	14.88
200	1406	16.55	1281	18.18

SAG & TENSION DATA
Secondary - 4/0 al PAP Vicksburg
Rated Breaking Strength: 8560lbs

RULING SPAN - **550** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2591	15.30	2389	16.61
30	2063	13.61	1835*	15.31
35	2036	13.79	1813	15.50
40	2011	13.97	1792	15.68
45	1986	14.14	1772	15.86
50	1962	14.32	1752	16.04
55	1938	14.49	1733	16.23
60	1915	14.67	1714	16.41
65	1892	14.85	1696	16.58
70	1870	15.02	1678	16.76
75	1849	15.20	1660	16.94
80	1828	15.37	1643	17.12
85	1808	15.55	1627	17.29
90	1788	15.72	1611	17.47
95	1769	15.89	1595	17.64
200	1453	19.39	1337	21.10

RULING SPAN - **600** FEET

	INITIAL		FINAL	
Amb. Temp. Deg. F	Tension (lbs)	Sag (ft)	Tension (lbs)	Sag (ft)
30 with 9 lb/ft² wind	2594	18.21	2412	19.60
30	2035	16.43	1835*	18.24
35	2012	16.62	1816	18.43
40	1990	16.81	1798	18.62
45	1968	16.99	1780	18.81
50	1947	17.18	1763	19.00
55	1927	17.36	1746	19.18
60	1907	17.55	1729	19.37
65	1887	17.73	1713	19.56
70	1868	17.91	1697	19.74
75	1849	18.10	1681	19.92
80	1831	18.28	1666	20.11
85	1813	18.46	1651	20.29
90	1796	18.64	1637	20.47
95	1778	18.82	1623	20.65
200	1494	22.47	1386	24.24