

ALUMINUM COMPANY OF AMERICA SAG AND TENSION DATA

Sample Problem
 NESC Medium Loading with Alcoa Limits

Conductor RAIL 954.0 Kcmil 45/ 7 Stranding ACSR
 C:\SAG10W\SAMPLE.PRF Time:07:59PM Date:01/29/1998 *Note: Optional*
Filename and Time / Date
 Area= .8011 Sq. In Dia= 1.165 In Wt= 1.075 Lb/F RTS= 25900 Lb
 Data from Chart No. 1-955
 English Units

Span= 1000.0 Feet NESC Medium Load Zone
 Creep IS a Factor

Design Points			Final				Initial	
Temp	Ice	Wind	K	Weight	Sag	Tension	Sag	Tension
F	In	Psf	Lb/F	Lb/F	Ft	Lb	Ft	Lb
15.	.25	4.00	.20	1.814	24.11	9430.	21.80	10426.
32.	.25	.00	.00	1.515	24.05	7900.	21.02	9030.
0.	.00	.00	.00	1.075	19.66	6850.	16.12	8348.
15.	.00	.00	.00	1.075	20.80	6475.*	17.07	7886.
30.	.00	.00	.00	1.075	21.93	6142.	18.05	7456.
60.	.00	.00	.00	1.075	24.15	5582.	20.12	6694.
90.	.00	.00	.00	1.075	26.28	5132.	22.23	6060.
120.	.00	.00	.00	1.075	28.33	4764.	24.34	5537.
167.	.00	.00	.00	1.075	31.37	4307.	27.56	4895.
212.	.00	.00	.00	1.075	34.09	3966.	30.49	4428.

* Design Condition

Sample Problem
 NESC Medium Loading with Alcoa Limits

C:\SAG10W\SAMPLE.PRF Time:08:02PM Date:01/29/1998 *Note: Optional 2 Line Heading*
Time / Date *Note: Optional Filename and*

Stringing Sag Table Using Initial Sag Ruling Span: 1000.0 Feet

Conductor RAIL 954.0 Kcmil 45/ 7 Stranding ACSR

NESC Medium Load Zone Max Tension = 10426 Lb

Design: 25.0 % Ult. @ 15. Deg F, .00 In Ice, .00 Psf Wind, Final

H Tens	8340.	7877.	7446.	7048.	6683.	6350.	6048.	5773.	5524.
(LBS)	-----	-----	-----	-----	-----	-----	-----	-----	-----
Temp F>	0.	15.	30.	45.	60.	75.	90.	105.	120.
Sag	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet
1000.0	16.12	17.07	18.05	19.07	20.12	21.17	22.23	23.29	24.34
1020.0	16.77	17.75	18.78	19.85	20.93	22.03	23.13	24.23	25.33
1040.0	17.43	18.46	19.53	20.63	21.76	22.90	24.05	25.19	26.33
1060.0	18.11	19.18	20.29	21.43	22.61	23.79	24.98	26.17	27.36
1080.0	18.80	19.91	21.06	22.25	23.47	24.70	25.94	27.17	28.40
1100.0	19.50	20.65	21.85	23.08	24.34	25.62	26.91	28.19	29.46

Note: Stringing Sags in

Decimal Feet

Span	-----	-----	-----	-----	-----	-----	-----	-----	-----
1000.0	16.12	17.07	18.05	19.07	20.12	21.17	22.23	23.29	24.34
1020.0	16.77	17.75	18.78	19.85	20.93	22.03	23.13	24.23	25.33
1040.0	17.43	18.46	19.53	20.63	21.76	22.90	24.05	25.19	26.33
1060.0	18.11	19.18	20.29	21.43	22.61	23.79	24.98	26.17	27.36
1080.0	18.80	19.91	21.06	22.25	23.47	24.70	25.94	27.17	28.40
1100.0	19.50	20.65	21.85	23.08	24.34	25.62	26.91	28.19	29.46

Cable 6304.8 6306.1 6307.5 6309.2 6311.0 *Note: Optional Sum*

Spanlengths for each temp

Lengths 6305.4 6306.8 6308.3 6310.1

Ruling Span= 1051.7 Feet

Note: Optional Ruling Span

Calculation