CatCurve

Tools for drawing catenary or hyperbolic curves.

What is the "P" value?

Here is a typical sag chart from *Alcoa's Sag10 program for calculating sag/tension values. By taking the design tension value for the conditions desired, and dividing it by the conductor weight per foot the value of "P" is obtained and then used to display the resulting catenary curve with 2DCAT or 3DCAT.

The P-Value can be entered by itself or enter 0 (zero) and you will be prompted for the horizontal tension and weight of conductor to be entered individually.

ALUMINUM COMPANY OF AMERICA SAG AND TENSION DATA

Sample OPGW

Conductor PHEASANT 1272 Kcmil 54/ 19 Stranding ACSS/AW
D:\SAG10W\ACSS-AW.PRF Time: 07:17 AM Date: 5/2/06
Area= 1.1259 Sq. In Dia= 1.382 In Wt= 1.568 Lb/F RTS= 32800 Lb
Data from Chart No. 1-1323
English Units

Span= 500.0 Feet NESC Medium Load Zone
Creep is NOT a Factor

Design Points					Final		Initial	
Temp F	Ice In	Wind Psf	K Lb/F	Weight Lb/F	Sag Ft	Tension Lb	Sag Ft	Tension Lb
15.	.25	4.00	.20	2.368	7.25	10218.	7.25	10218.
0.	.00	.00	.00	1.568	5.35	9174.	5.13	9559.
15.	.00	.00	.00	1.568	5.98	8200.*	5.37	9136.
30.	.00	.00	.00	1.568	6.65	7376.	5.63	8709.
60.	.00	.00	.00	1.568	8.02	6117.	6.24	7858.
90.	.00	.00	.00	1.568	9.36	5243.	6.97	7037.
120.	.00	.00	.00	1.568	10.56	4653.	7.81	6281.
167.	.00	.00	.00	1.568	11.41	4308.	9.29	5284.
212.	.00	.00	.00	1.568	12.22	4024.	10.78	4555.

* Design Condition

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$$P = \frac{H_{TEN}}{W/ft} = \frac{9136}{1.568} = 5826.53 \text{ or } 5826$$