



You are probably already comfortable with using Sag10 for your sag and tension calculations. So what does Poles 'n' Wires offer in addition to the features you get from sag10?

## 1 Pole loadings

After deriving the loaded tensions in sag10 you need to work out the pole loadings. You may use a spreadsheet or other software, or good old hand calculations.

Poles 'n' Wires has a pole loading module (in Poles 'n' Wires pole loadings are called tiploads). The tipload module allows you to enter the various circuits attached to a pole and you can enter as one of the properties the tension from sag10.

## 2 Profiling

You'll also need to create a profile to check ground clearances and inter-circuit clearances. When entering the conductor circuits into the profile you can enter the tensions from sag10 so clearances can be checked.

## 3 Integrated sag-tension calculator

Poles 'n' Wires has an integrated sag-tension calculator that performs the same calculations Sag10 does. In both the tipload and profile modules you can access this calculator so all tension calculation can be done within the program. The calculator will also run as a standalone module within the program.

The sag-tension calculator has about 1600 US conductors and if you can't find any you currently use you can add them into the database.

Attached to this document is a sample report from the sag-tension module.

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### Revision history

Rev No.	Date	Details
A	30/06/16	Initial issue

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## Sag Tension Report

**Project name:**

Conductor: raven\_acsr

Area: 0.0968in<sup>2</sup>

Diameter: 0.398in

Weight: 0.145 lb/ft

RBS: 4380lb

RS: 800.00 feet

Vertical distance: 0.00 feet

**Loading limits**

Loading conditions govern the final sag

Usage	Temp F	Ice	Wind	k	% limit
Initial	0	0.5	4	0.3	60
Initial	0	0	0	0	35
Final	0	0	0	0	25

Limiting load case: Heaviest load (initial)

Creep temperature: 60

**Design Points**

Temp F	Wind	ice	k	Wt	Sag (final)	H final	Sag (initial)	H
0	4	0.5	0.3	1.141	35.37	2588	35.37	2588
32	0	0.5	0	0.7	33.63	1670	31.61	1776
-20	0	0	0	0.145	26.96	432	22.13	526
0	0	0	0	0.145	27.83	418	23.07	504
30	0	0	0	0.145	28.62	407	24.45	476
60	0	0	0	0.145	29.31	397	25.78	452
90	0	0	0	0.145	30	388	27.06	430
120	0	0	0	0.145	30.68	380	28.31	411
167	0	0	0	0.145	31.72	367	30.19	386
212	0	0	0	0.145	32.69	356	31.91	365

