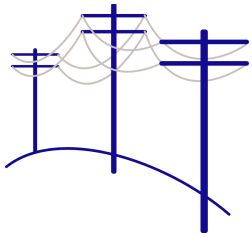
Combined bending & compression



AS7000:2016 appendix F details approaches to calculating pole strength. Section F5.4 gives an equation for combined bending and compression (vertical and sideways forces on a pole affect each other).

The equation is $\left(\frac{M^*}{\emptyset M}\right)+\left(\frac{N^*_c}{\emptyset N_c}\right)\leqslant 1$

the symbols meaning:

$\emptyset$	strength reduction factor
M	calculated pole bending capacity
M^*	tipload acting on pole
N_c	strength capacity in axial compression
N^*_c	vertical load on pole including self-weight

The effect of this check is that a pole that may "pass" in either bending strength or compression may not pass the combined check.

If you are not required to do a combined check (most utilities do not require this for distribution poles) you can make Poles 'n' Wires not perform the check by setting the compressive (vertical) strength in the Poles/structures database for the pole you are using to zero. If you enter pole dimensions manually arather than using a pole from the database no comparison with pole strengths are performed.

Revision history

Rev No.	Date	Details
A	21/04/15	Initial issue
B	27/05/16	Update reference to AS7000:2016, formatting