Dimensioning aid - truss compression

Planned construction

User input

Design Criteria:

Design code reference NDS-2018
Design method used ASD

Load assumptions dead loads, live loads

Member Size and Geometry:

b, d :width and depth of the member (inches)

Material Properties:

 $F_{\mathcal{C}}^*$:Reference compression parallel to grain design value (psi)

E :Modulus of elasticity (psi)

 $E_{\it min}$:Minimum modulus of elasticity (psi)

Adjustment Factors:

 $C_{\scriptscriptstyle F}$:Size factor for the member

 $C_{\scriptscriptstyle M}$:Moisture content factor

 C_t : Temperature factor

 C_i : Incising factor for treated wood members

 $C_{\scriptscriptstyle T}$:Buckling stiffness factor

 C_D :Load duration factor

Stability and Buckling Considerations:

L:Unbraced length of the member (feet)

K:Effective length factor for buckling

 $l_{_{\ell}}$:Effective length for buckling (the actual length adjusted by the effective length factor K)

Service Conditions:

Dry, wet, etc..

Load Information:

P: Axial load on the member (lbs or kips).