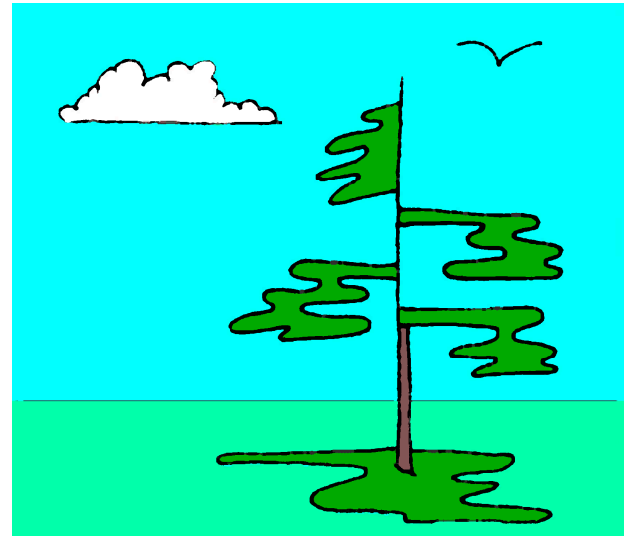


NorthWoods Software



Program Name: Eng-Tips

Project Name: -

Project Number: -

Project Description: -

Project Designer: Dik

Last Revised (yy-mm-dd): 19-11-11

Reference: NBCC

Created using SMath Studio, a MathCAD workalike from <https://en.smath.info/view/SMathStudio>
The User is responsible to verify data using an alternative method

Menu:



Input Data



Important Output



Logical Constructs



Units



Sum / For



Important Note

Defined Units:

$K := \text{kip}$

Force

$K_{ft} := K \text{ ft}$

$kN_m := kN \text{ m}$

Moment

$pcf := \frac{\text{lb f}}{\text{ft}^3}$

$kN_{pcm} := \frac{kN}{\text{m}^3}$

$kg_{pcm} := \frac{kg}{\text{m}^3}$

Density

$K_{lf} := \frac{K}{\text{ft}}$

$plf := \frac{\text{lb f}}{\text{ft}}$

$kN_{pm} := \frac{kN}{\text{m}}$

Force per Unit Length

$psf := \frac{\text{lb f}}{\text{ft}^2}$

$K_{sf} := \frac{K}{\text{ft}^2}$

$K_{si} := \frac{K}{\text{in}^2}$

$kN_{psm} := \frac{kN}{\text{m}^2}$

Pressure

User Defined Functions

```
Check(arg) := if arg = 1
               Check := "...OK"
             else
               Check := "...NG"
```

Examples

$\text{Check}(2 = 3) = \text{"...NG"}$

$\text{Check}(2 \neq 3) = \text{"...OK"}$

$\text{Check}(2 \leq 3) = \text{"...OK"}$

$\text{Check}(3 \geq 2) = \text{"...OK"}$

Input Data

$$k := 24$$

$$f'_c := 25 \text{ MPa}$$

$$h_{ef} := 100 \text{ mm}$$

$$N_b := k \cdot \left(\sqrt{\frac{f'_c}{\text{MPa}}} \right) \cdot \left(\frac{h_{ef}}{\text{mm}} \right)^{1.5} \text{ N}$$

$$N_b = 120.00 \text{ kN}$$