Step 4: Determine Q as a function of requirements and material properties – deflection basis

Try using deflection as the basis for material selection and then check strength

$$m = \rho bhL = \rho bL\left[\frac{PL^3}{4Ebv}\right]^{1/3} = \left[\frac{PL^6b^2}{4v}\right]^{1/3}\left[\frac{\rho}{E^{1/3}}\right]$$

$$C = C_m m = \left[\frac{PL^6b^2}{4v}\right]^{1/3}\left[\frac{\rho C_m}{E^{1/3}}\right]$$

f_2