



F_H - causes compression Beam F_{HC}

F_H - causes Bending moment BM_{F_H}

w/m - causes Bending moment BM_w

$$U_{\text{tot}} = \sqrt{\frac{1}{2} \left(\left(\sigma_{BM_{F_H}} + \sigma_{BM_w} \right) - 0 \right)^2 + \left(\sigma_{F_{HC}} - 0 \right)^2 + \left(- \left(\sigma_{BM_{F_H}} + \sigma_{BM_w} \right) + \sigma_{F_{HC}} \right)^2 }$$