$a := 150\text{mm}$

$$P_A := 300\text{kN} \qquad e := 50\text{mm}$$

$t_a := 10\text{mm}$

$$D := 8\text{m}$$

$t_{sk} := 12\text{mm}$

$$SS := \begin{vmatrix} h \leftarrow 5\text{mm} \\ \text{while } S_a > 25\text{ksi} \\ \quad \begin{vmatrix} S_a \leftarrow \dfrac{\dfrac{P_A}{\text{kip}} \cdot \dfrac{e}{\text{in}}}{\left(\dfrac{t_{sk}}{\text{in}}\right)^2} \cdot \left[\dfrac{1.32 \cdot \left[\dfrac{1.0}{\dfrac{0.177 \cdot \dfrac{a}{\text{in}} \cdot \dfrac{t_a}{\text{in}}}{\sqrt{\dfrac{D}{2} \cdot \dfrac{t_{sk}}{\text{in}}}} \cdot \left(\dfrac{t_a}{t_{sk}}\right)^2 + 1.0 \right]}{\left[\dfrac{1.43 \cdot \dfrac{a}{\text{in}} \cdot \left(\dfrac{h}{\text{in}}\right)^2}{\dfrac{D}{2} \cdot \dfrac{t_{sk}}{\text{in}}} + \left[4 \cdot \dfrac{a}{\text{in}} \cdot \left(\dfrac{h}{\text{in}}\right)^2 \right] \right]^{\frac{1}{3}}} + \dfrac{.031}{\sqrt{\dfrac{D}{2} \cdot \dfrac{t_{sk}}{\text{in}}}} \right] \cdot \text{ksi} \\ h \leftarrow h + 5\text{mm} \end{vmatrix} \\ h \end{vmatrix}$$

$SS = 5\,\text{mm}$

I should be getting an answer around 500 mm or so.