

1989 ASD

$\frac{3}{4}"$  A307

$$B = 8.8 \text{ kip}$$

$\frac{3}{4}"$  A325

$$B = 19.4 \text{ kip}$$

— ASSUME ALL GEOMETRY SAME:  $F_y = 36 \text{ ksi}$ ,  $t = 0.544"$   
 $b' = 0.95"$   $\phi = 0.594"$   $p = 2.0"$   $\rho = 0.69$

$$t_c = \sqrt{\frac{(8 \times 8.8 \times 0.95)}{(2 \times 36)}} = 0.96"$$

$$\alpha = \frac{1}{(0.594)(1+0.69)} \left[ \left( \frac{0.96}{0.544} \right)^2 - 1 \right] = 2.1$$

$$2.1 > 1.0 \quad \therefore$$

$$T_{ALL} = 8.8 \left( \frac{0.544}{0.96} \right)^2 (1+0.594)$$

$$T_{ALL} = 4.50 \text{ kip}$$

$$t_c = \sqrt{\frac{(8 \times 19.4 \times 0.95)}{(2 \times 36)}} = 1.43"$$

$$\alpha' = \frac{1}{(0.594)(1+0.69)} \left[ \left( \frac{1.43}{0.544} \right)^2 - 1 \right] = 5.89$$

$$5.89 > 1.0 \quad \therefore$$

$$T_{ALL} = 19.4 \left( \frac{0.544}{1.43} \right)^2 (1+0.594)$$

$$T_{ALL} = 4.48 \text{ kip}$$