

7-1 $H_B = 490$

Eq. (3-17): $S_{ut} = 0.495(490) = 242.6 \text{ kpsi} > 212 \text{ kpsi}$

Eq. (7-8): $S'_e = 107 \text{ kpsi}$

Table 7-4: $a = 1.34, \quad b = -0.085$

Eq. (7-18): $k_a = 1.34(242.6)^{-0.085} = 0.840$

Eq. (7-19): $k_b = \left(\frac{3/16}{0.3}\right)^{-0.107} = 1.05$

Eq. (7-17): $S_e = k_a k_b S'_e = 0.840(1.05)(107) = 94.4 \text{ kpsi} \quad \text{Ans.}$
