

6.52 The working stresses for the two alloys the stress-strain behaviors of which are shown in Figures 6.12 and 6.21 are calculated by dividing the yield strength by a factor of safety, which we will take to be 2. For the brass alloy (Figure 6.12), since  $\sigma_y = 250$  MPa (36,000 psi), the working stress is 125 MPa (18,000 psi), whereas for the steel alloy (Figure 6.21),  $\sigma_y = 1570$  MPa (228,000 psi), and, therefore,  $\sigma_w = 785$  MPa (114,000 psi).