Isothermal Transformation Diagrams

10.15 We are called upon to consider the isothermal transformation of an iron-carbon alloy of eutectoid composition.

(a) From Figure 10.22, a horizontal line at 675°C intersects the 50% and reaction completion curves at about 80 and 300 seconds, respectively; these are the times asked for in the problem statement.

(b) The pearlite formed will be coarse pearlite. From Figure 10.30(a), the hardness of an alloy of composition 0.76 wt% C that consists of coarse pearlite is about 205 HB (93 HRB).