

Problem 9-36

The eutectic liquid in solidifying must form two solids simultaneously to obey the phase rule, as shown on the phase diagram. As solidification proceeds we need a microstructure which requires short diffusion distances. This dictates the lamellar or “layered” microstructure, in which the two solid phases are mixed very closely. Faster cooling rates will cause more and thinner layers, while slower cooling rates give thicker layers.