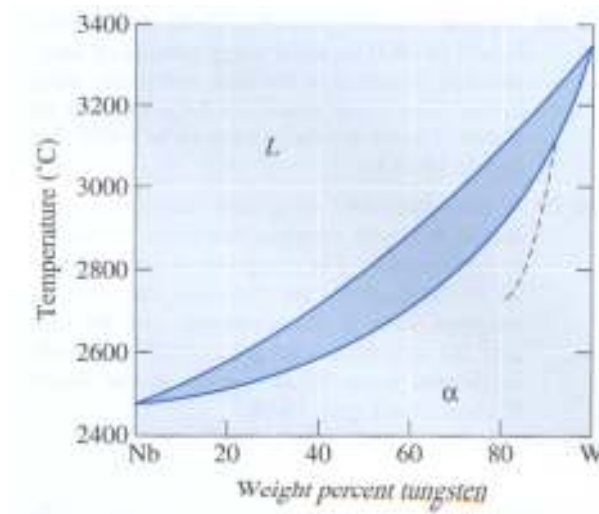


**HW 6**  
(Due 2/25 Mon)

**10-19**

A Nb-60wt% W alloy is heated to 2800°C. Determine (a) the composition of the solid and liquid phases in both wt% and at%; (b) the amount of each phase in both wt% and at%; and (c) assuming that the density of the solid is 16.05 g/cm<sup>3</sup> and that of the liquid is 13.91g/cm<sup>3</sup>, determine the amount of each phase in vol %.

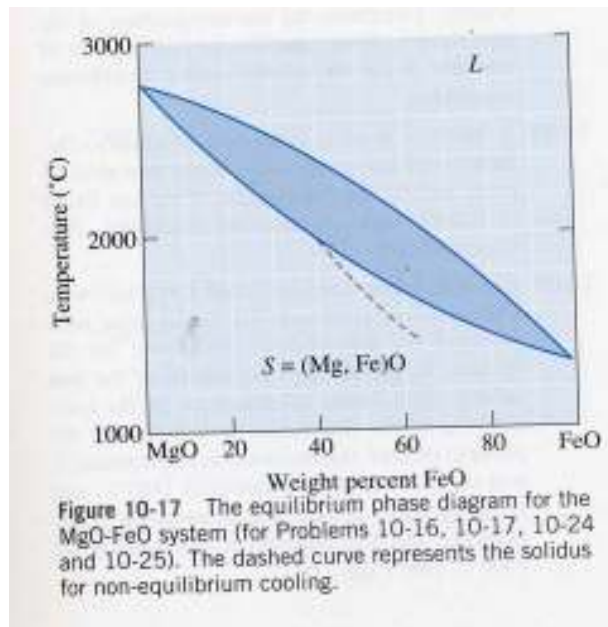


**10-21**

How many grams of nickel must be added to 500 grams of copper to produce an alloy that contains 50wt%  $\alpha$  at 1300°C.

**10-25**

We would like to produce a MgO-FeO ceramic that is 30wt% solid at 2000°C. Determine the original composition of the ceramics in wt%.



**10-40**

Cooling curves are shown in Figure 10-21 for several Mo-V alloys. Based on these curves, construct the Mo-V phase diagram.

