

Problem 9-47

Compute the mass fraction of a ferrite and cementite in pearlite.

The percentages are as follows.  $C_\alpha = 0.022\%$ .  $C_c = 6.70\%$ .  $C_o = 0.77\%$

According to the lever rule,

$$W_\alpha = \frac{W_c - W_o}{W_c - W_\alpha} \times 100\% = \frac{6.70 - 0.77}{6.70 - 0.025} \times 100\% = 88.8\%$$

And therefore,

$$W_c = 100\% - W_\alpha = 100\% - 88.8\% = 11.2\%$$