

재료공학개론 과제7

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1 Problem 1

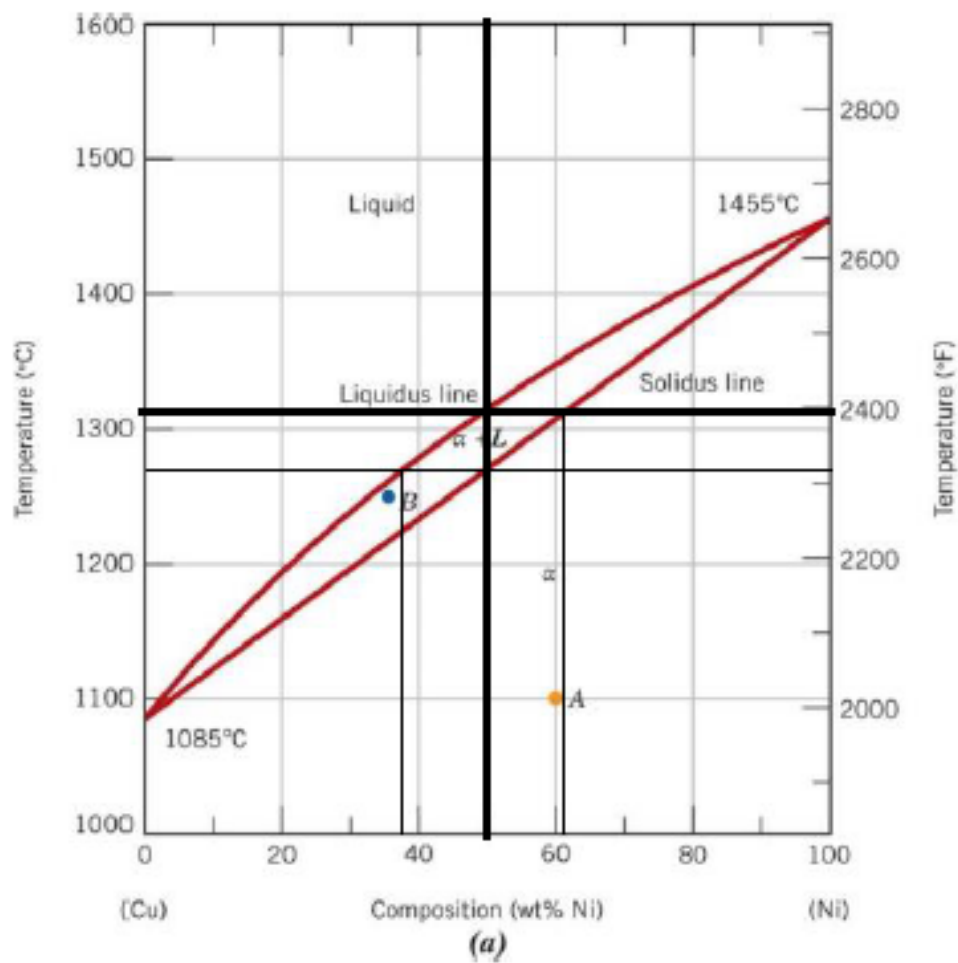


Figure 1: Ni-Co Phase Diagram

1.1 a

약 1320°C 에서 발생한다.

1.2 b

Ni 62%, Cu 38%이다.

1.3 c

약 1270°C 에서 발생한다.

1.4 b

Ni 36%, Cu 64%이다.

2 Problem 2

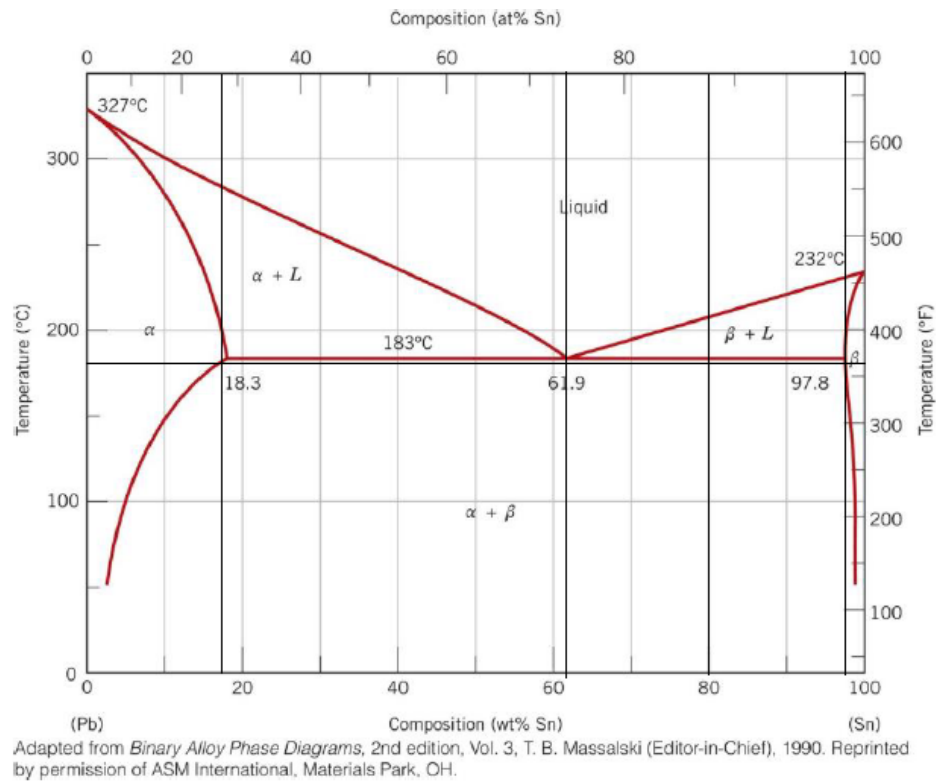


Figure 2: Sn–Pb Phase Diagram

2.1 a

$$W_{\alpha} = \frac{97.8 - 80}{97.8 - 18.3} \quad (1)$$

$$= 0.224 \quad (2)$$

$$W_{\beta} = \frac{80 - 18.3}{97.8 - 18.3} \quad (3)$$

$$= 0.776 \quad (4)$$

2.2 b

$$W_{primary\beta} = \frac{80 - 61.9}{97.8 - 61.9} \quad (5)$$

$$= 0.504 \quad (6)$$

$$W_{eutectic} = \frac{97.8 - 80}{97.8 - 61.9} \quad (7)$$

$$= 0.496 \quad (8)$$

2.3 c

$$W_{eutectic\beta} = W_{\beta} - W_{primary\beta} \quad (9)$$

$$= 0.776 - 0.504 \quad (10)$$

$$= 0.272 \quad (11)$$

3 Problem 3

각 온도별 schematic은 Figs.4, 5, 6와 같다.

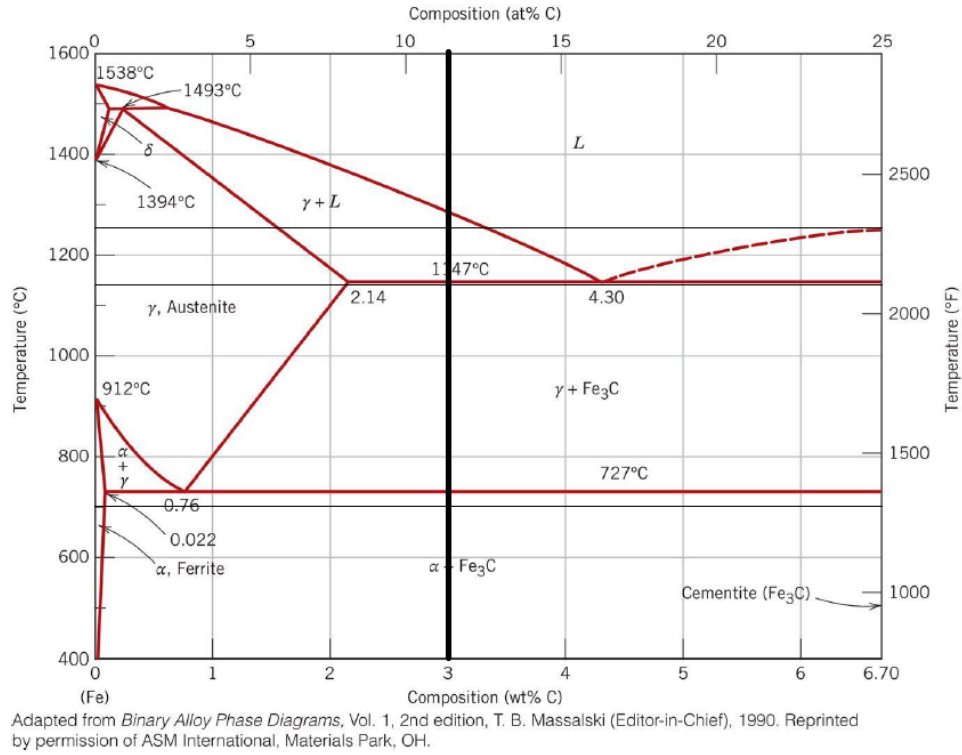


Figure 3: Fe Phase Diagram

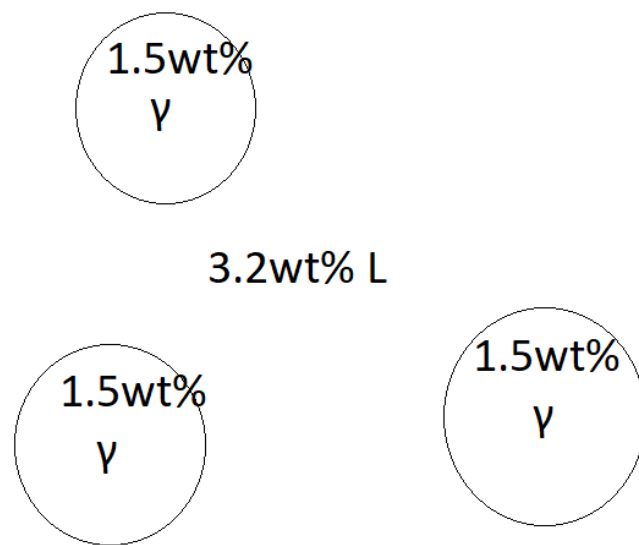


Figure 4: 1250°C

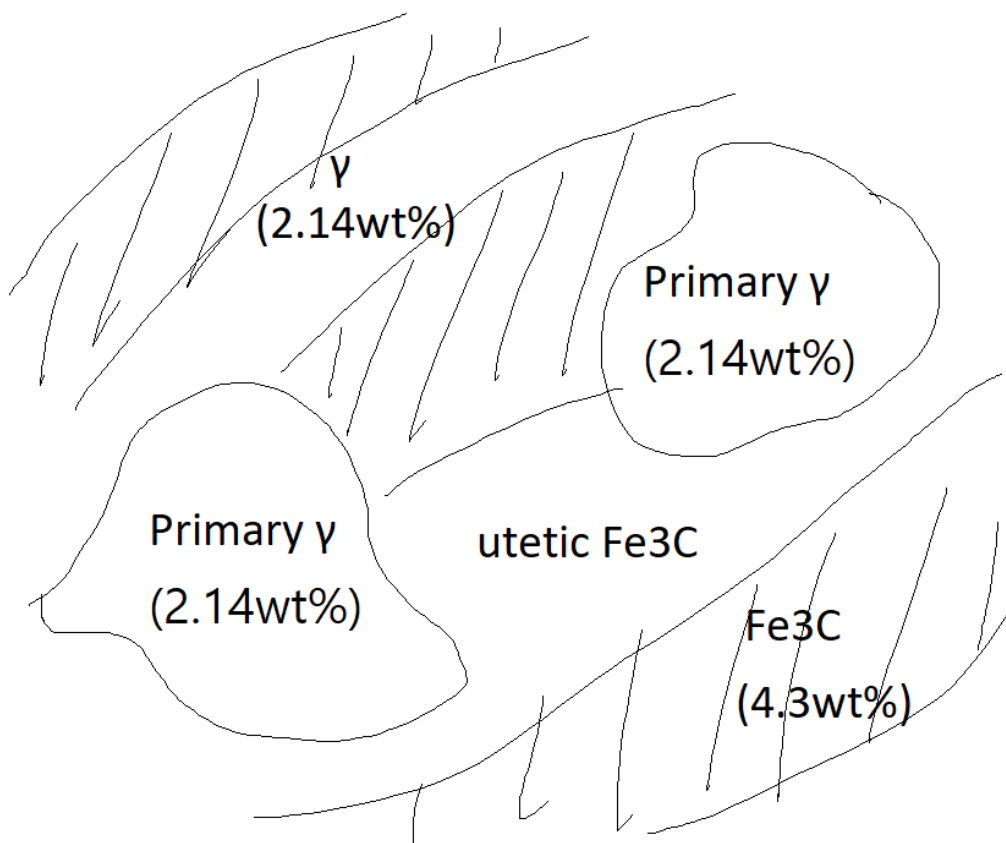


Figure 5: 1145°C

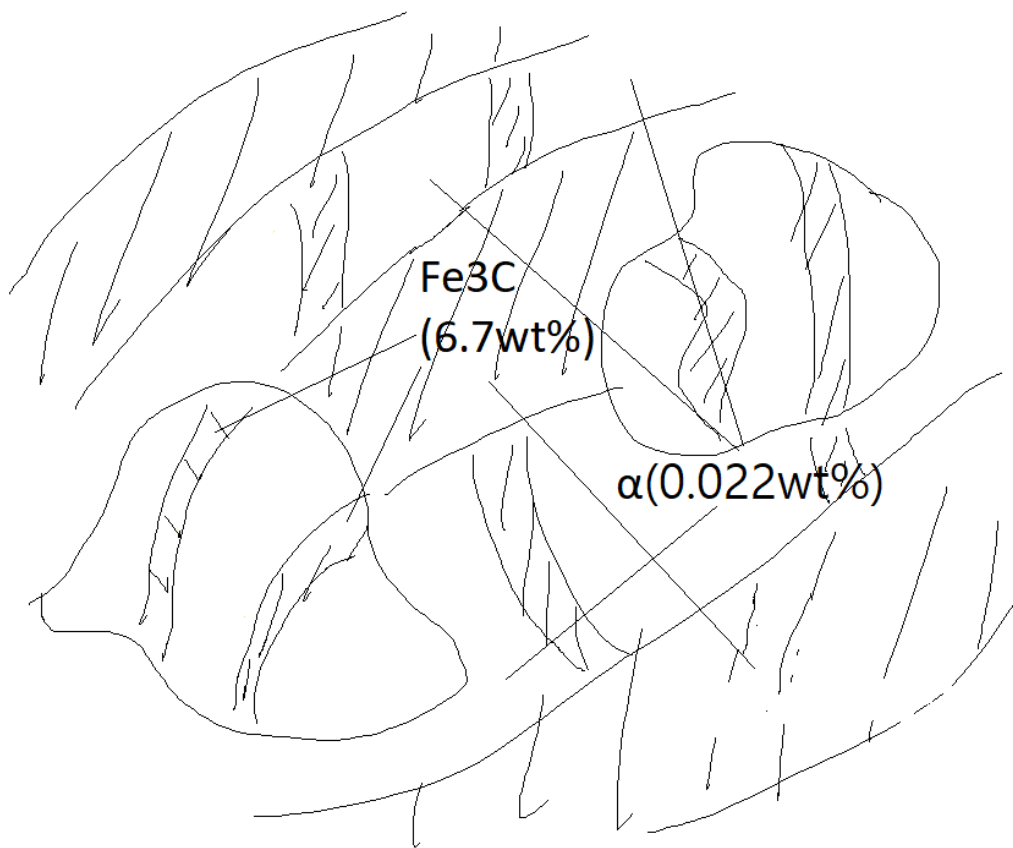


Figure 6: 700°C