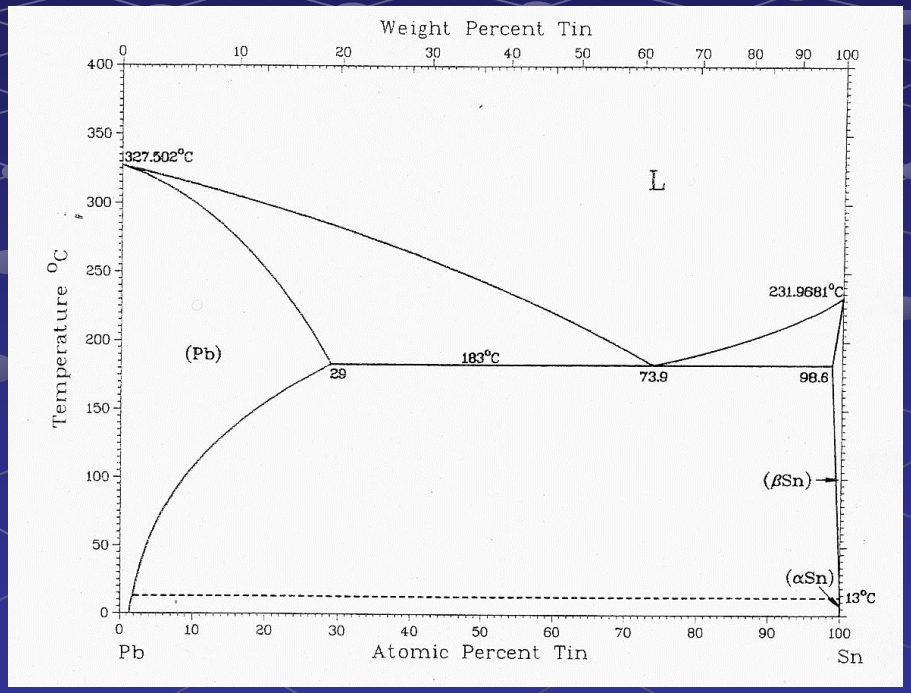
DIAGRAMAS DE FASE (II):

- Pb – Sn
- Al – Si
- Pt – Ag
- Cerámicos

DIAGRAMA Pb - Sn: Eutéctica normal



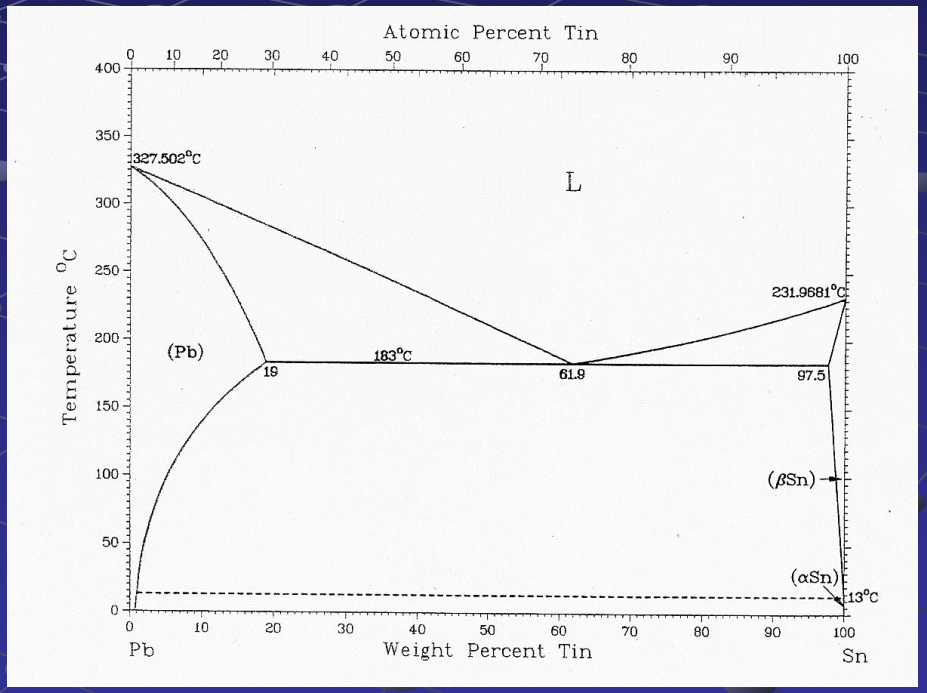
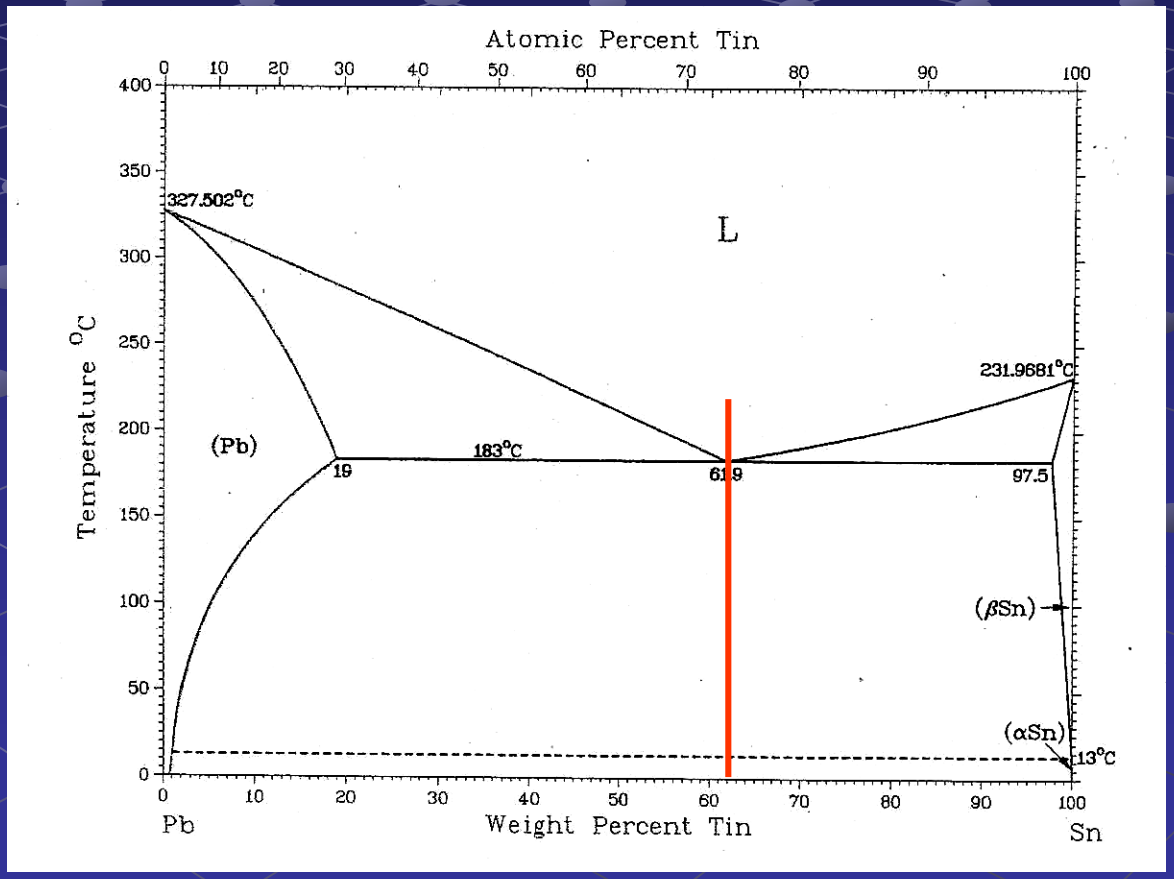
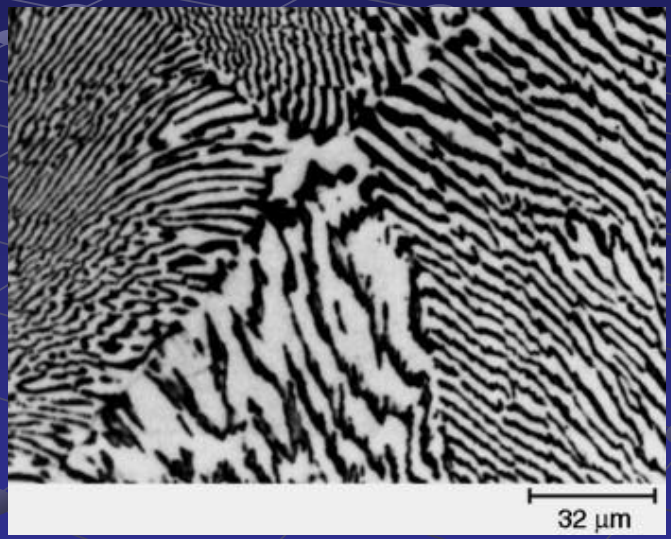


DIAGRAMA Pb - Sn: Eutéctica normal

Para T = 183 ºC: $L_{(61,9\ \%\ Sn)} \Leftrightarrow \alpha_{(Pb\ -19\ \%\ Sn)} + \beta_{(Sn\ -\ 2,5\ \%\ Pb)}$

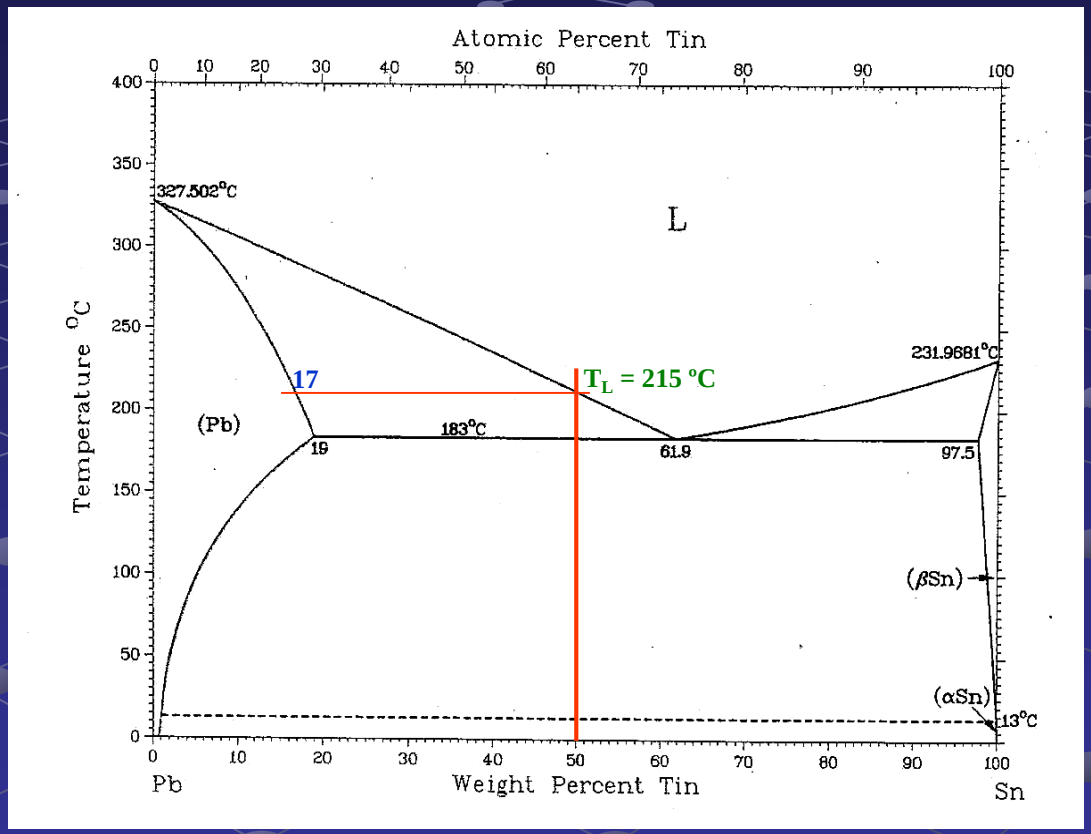




$f_{\alpha\ (19\ Sn)} = 45\ \%$

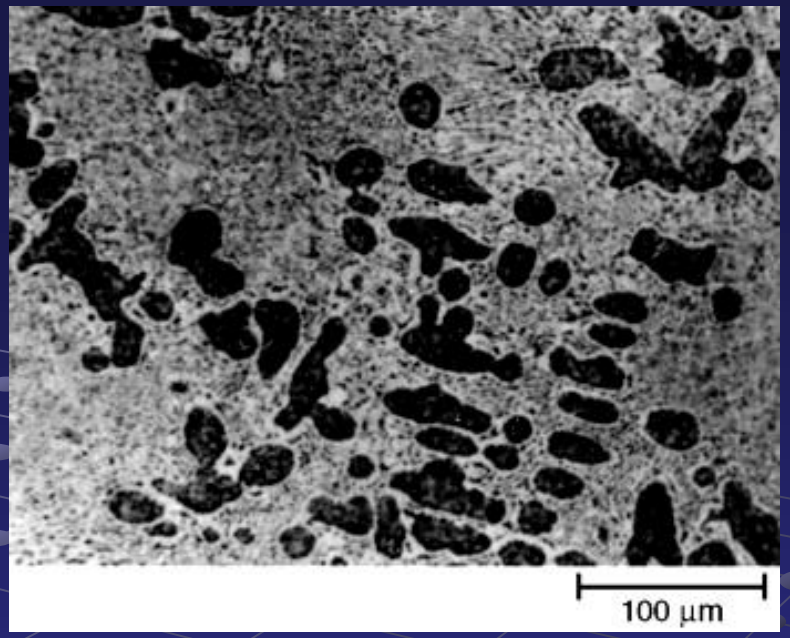
$f_{\beta\ (2,5\ Pb)} = 55\ \%$

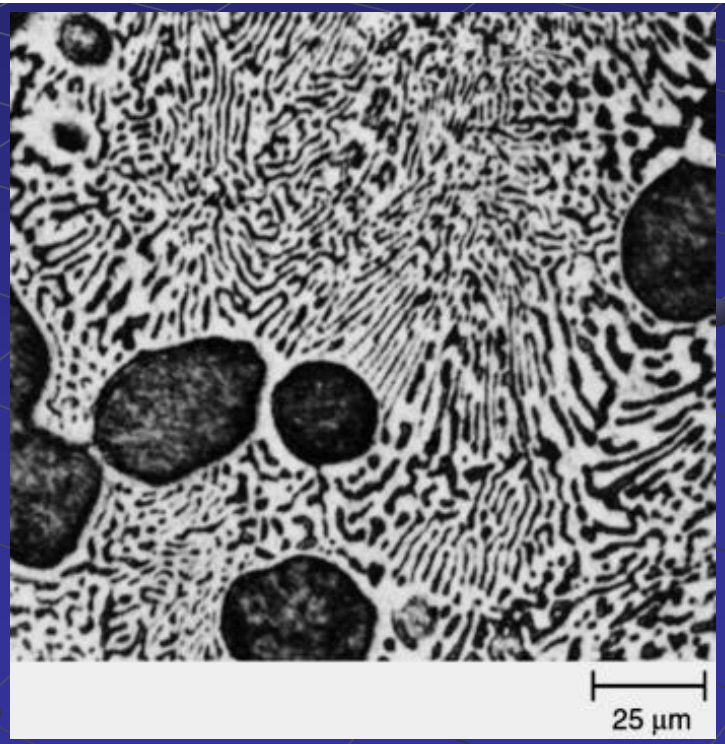
Pb – 50 % Sn



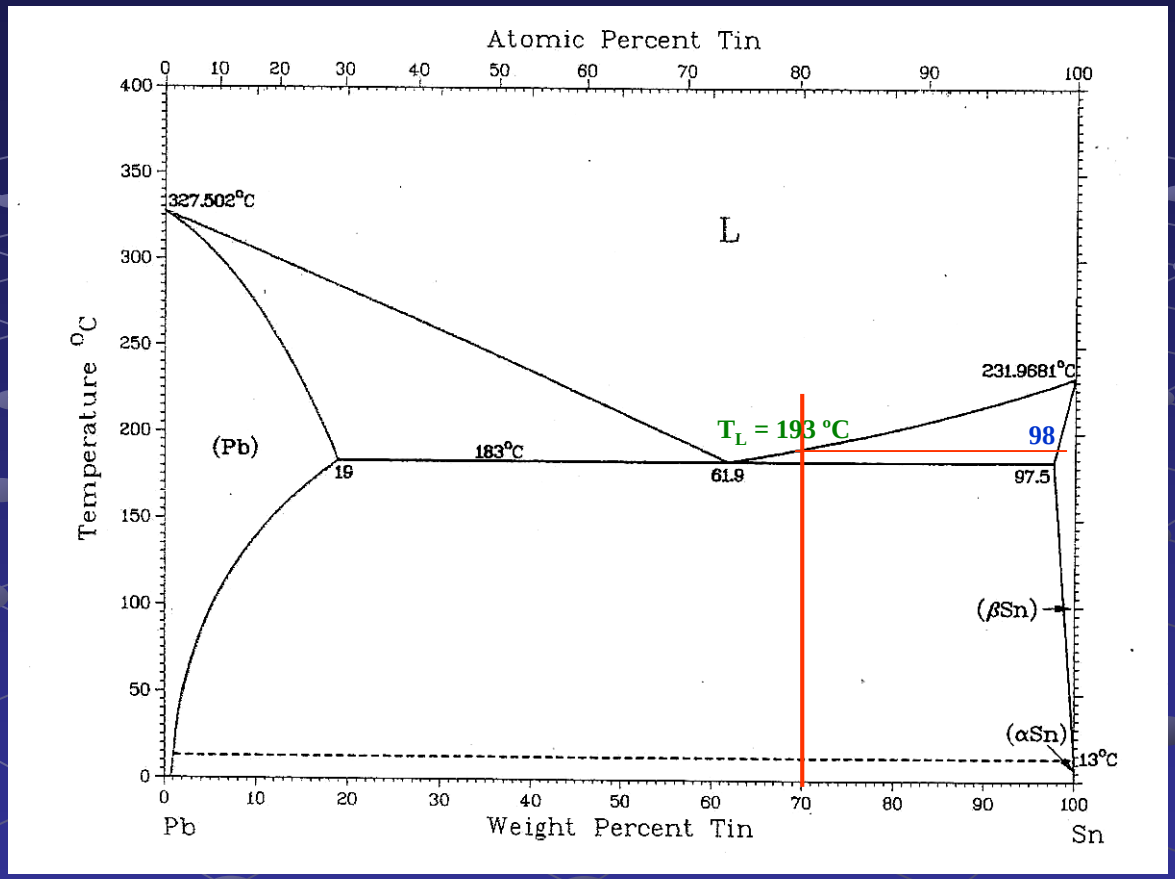
f_l = 72 %

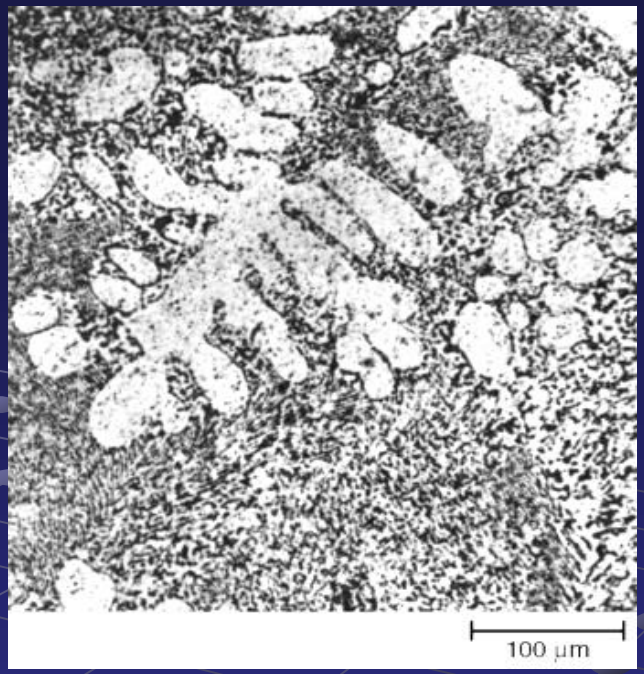
f_s = 28 %

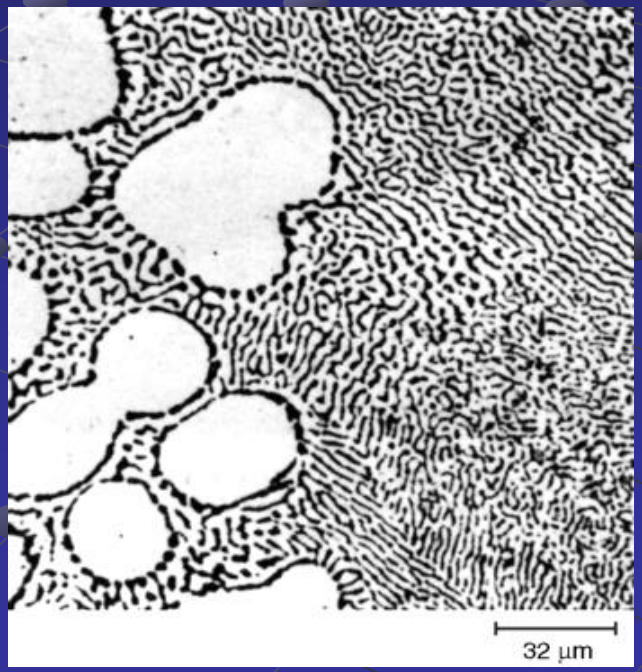




Pb – 70 % Sn



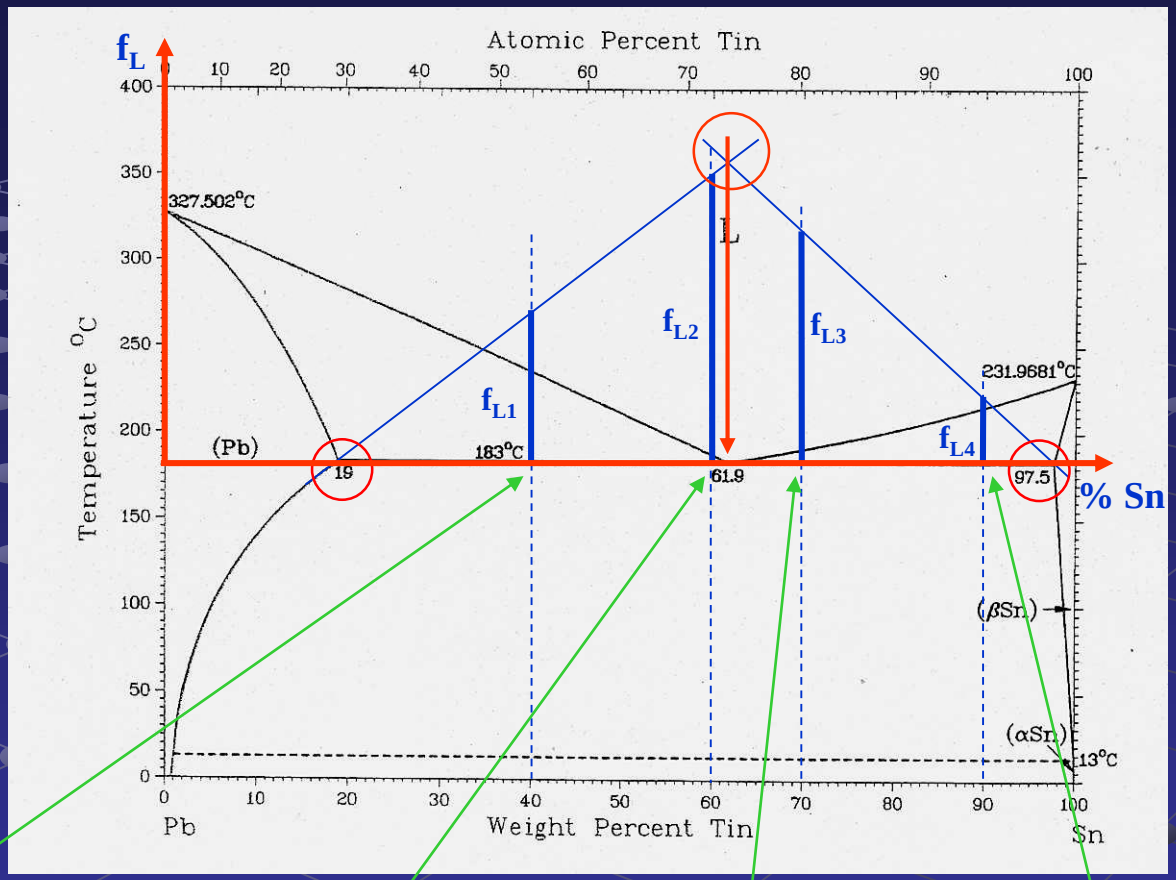


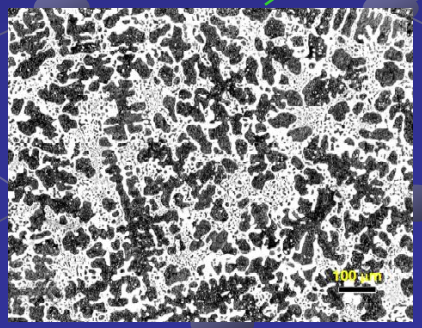


f_l = 77 %

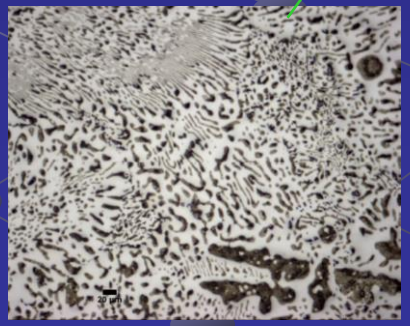
f_s = 23 %

METODO DE TAMMANN



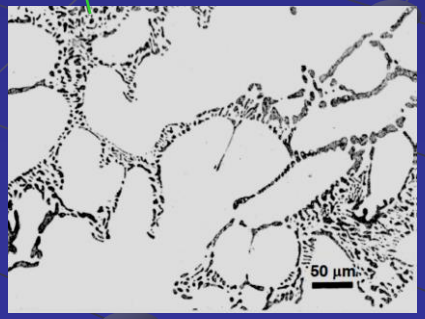


Pb-40 % Sn: f_{L1}= 49 %



Pb-60 % Sn: f_{L2}= 95 %

Pb-70 % Sn: f_{L3}= 77 %



Pb-90 % Sn: f_{L4}= 21 %

DIAGRAMA Pb - Sn: Eutéctica normal

Aleación Pb – Sn ($C_2 \leq 19$ % wt Sn)

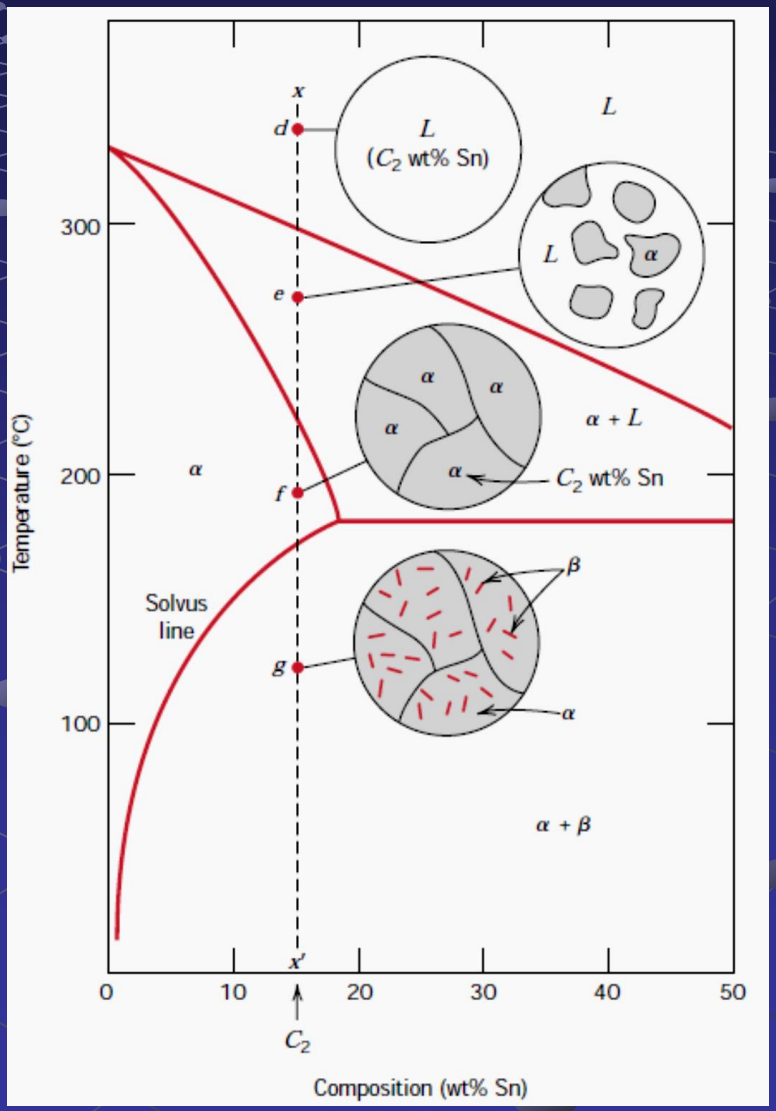
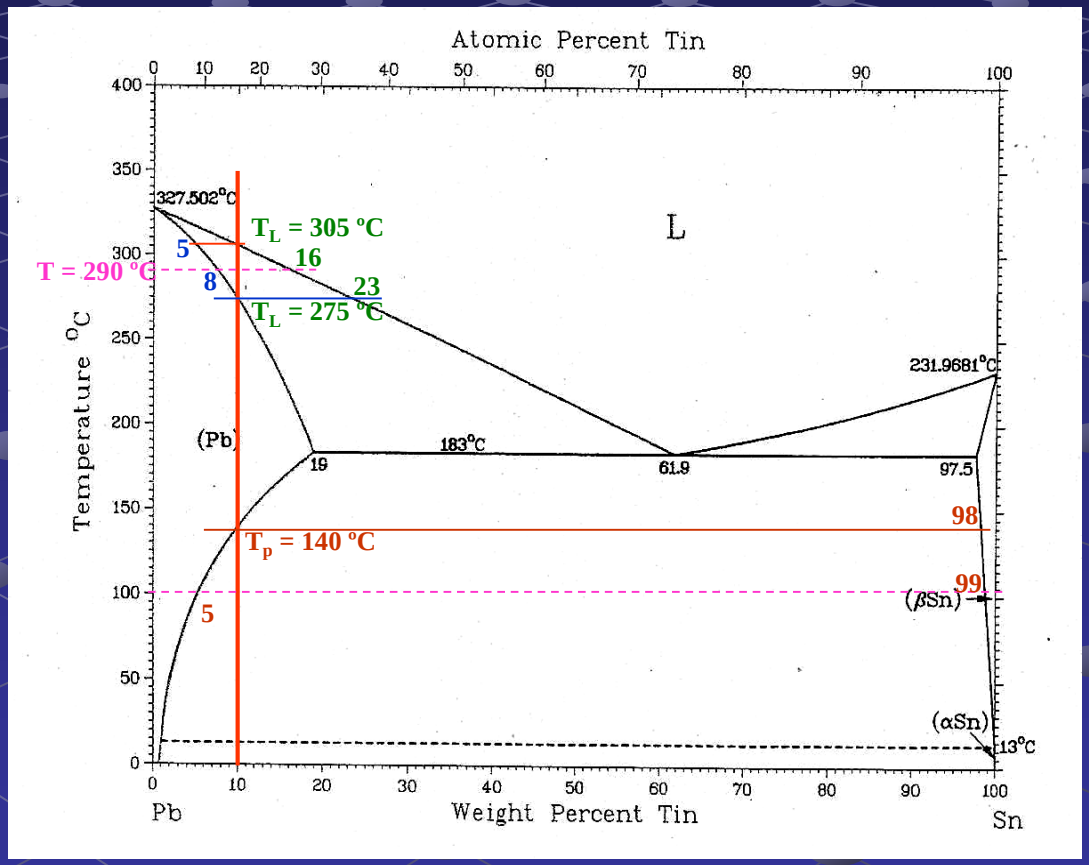
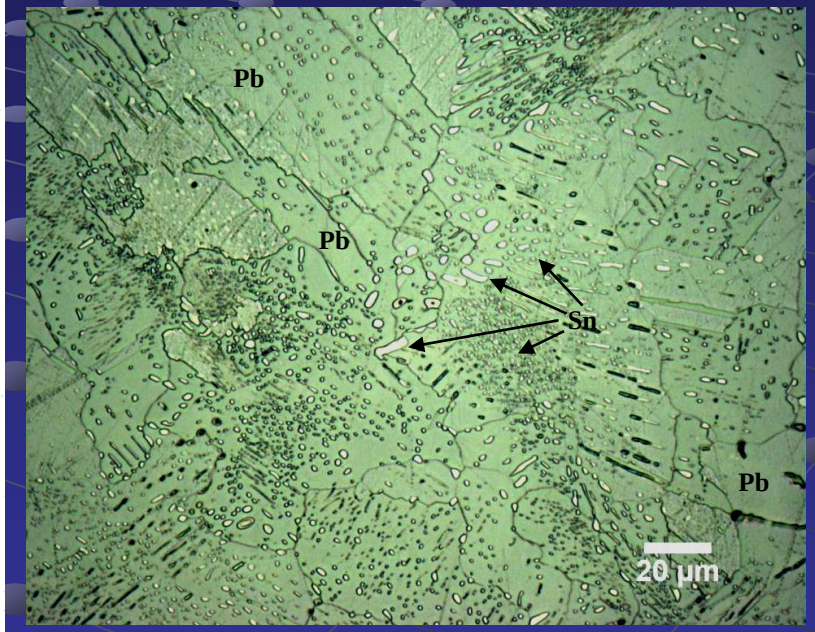


DIAGRAMA Pb - Sn: Eutéctica normal

Pb – 10 % Sn





Reactivo Pollack

DIAGRAMA Al - Si: Eutéctica anormal

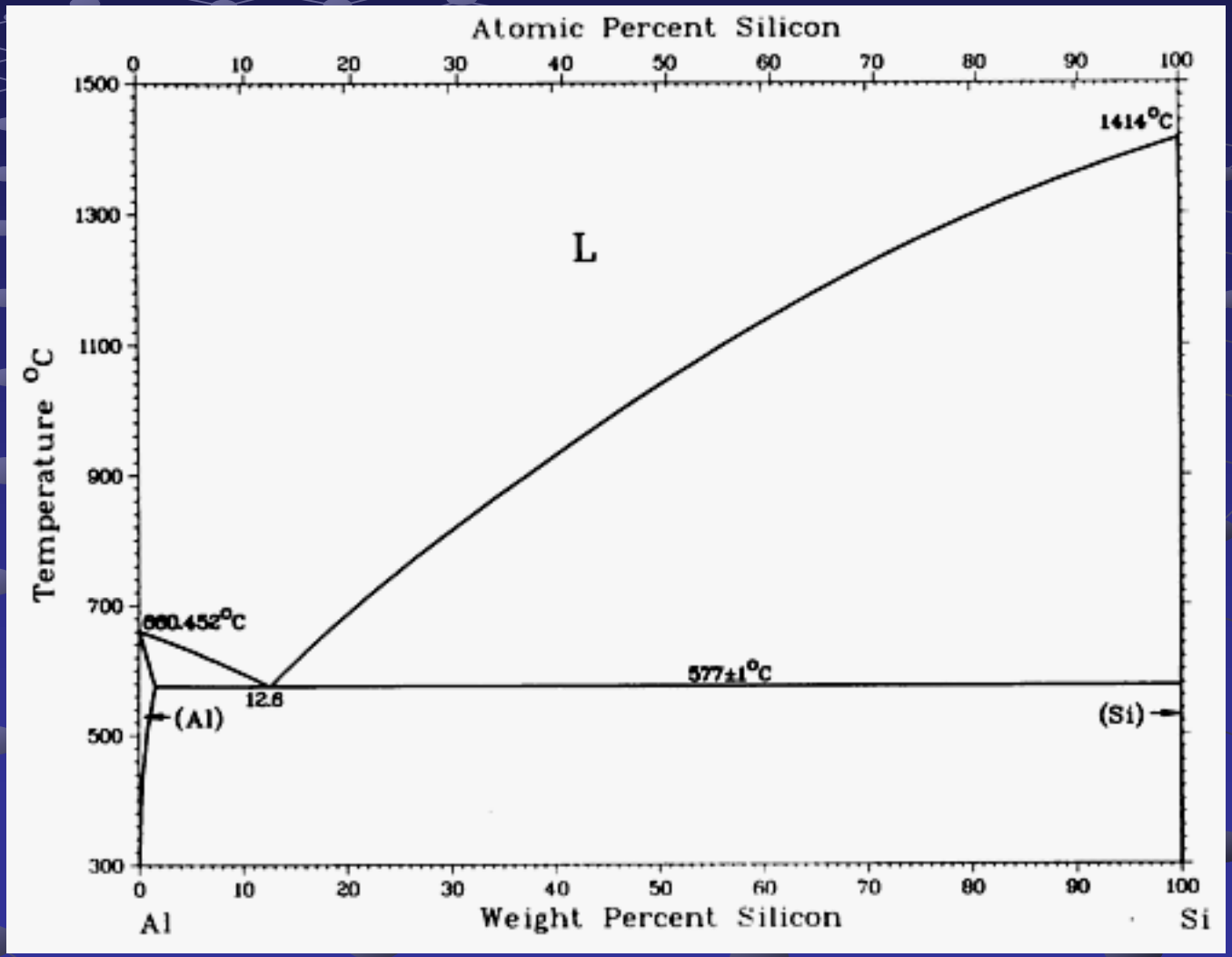
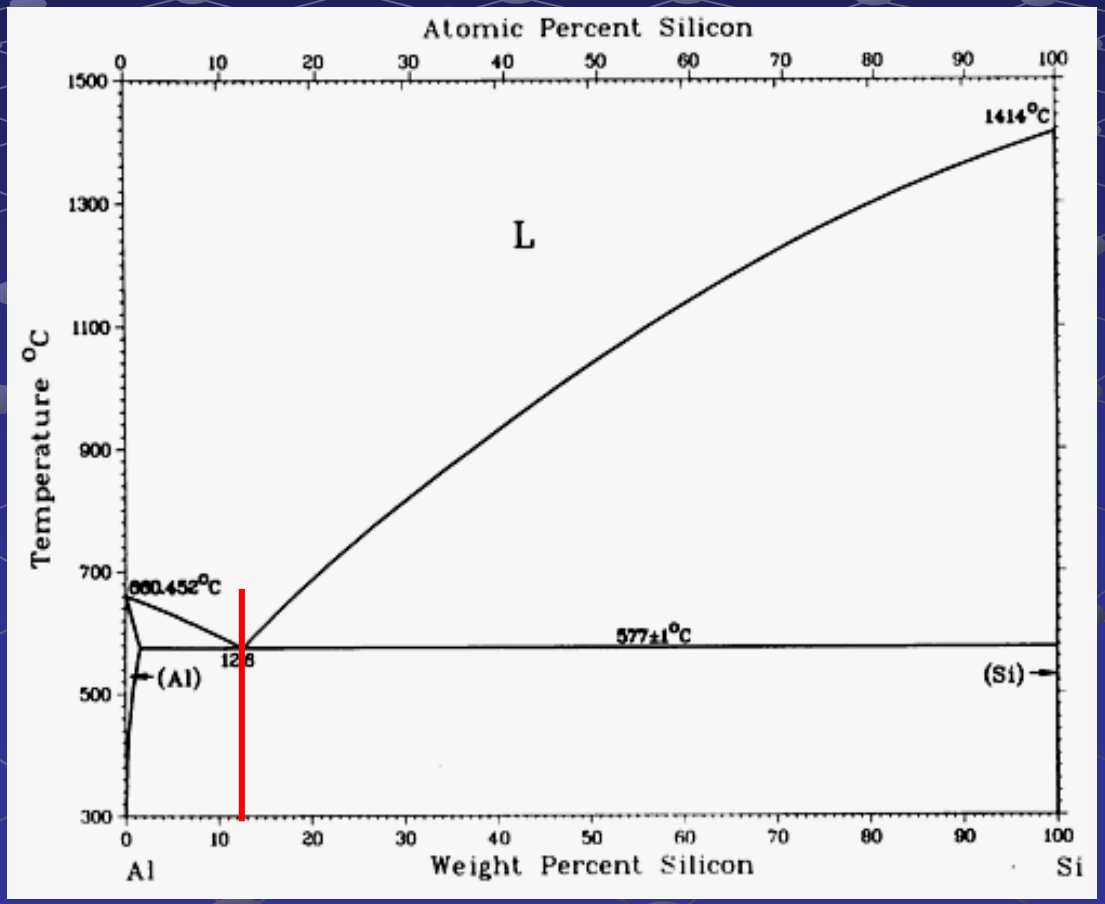
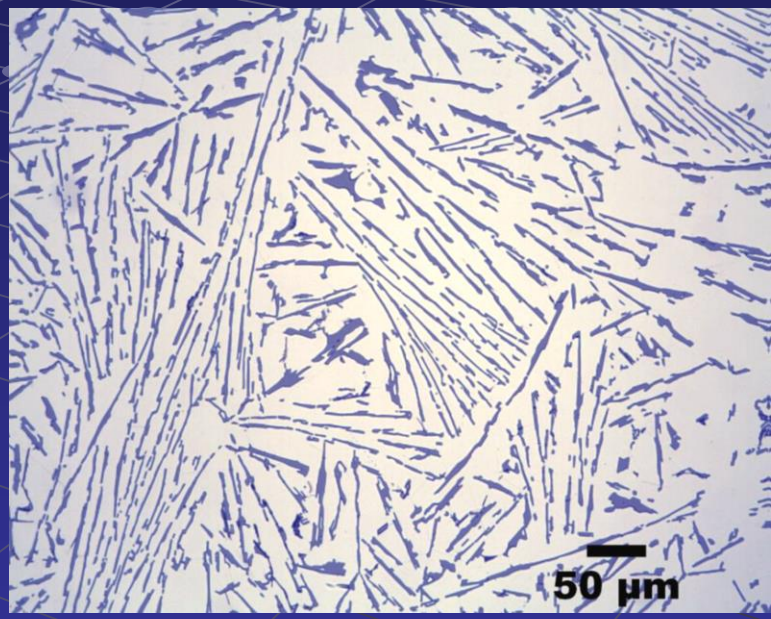


DIAGRAMA Al - Si: Eutéctica anormal

Aleación Al – 12,6 % Si

Para T = 577 ºC: $L_{(12,6\ \%\ Si)} \Leftrightarrow \alpha_{(Al - 2\ \%\ Si)} + Si$

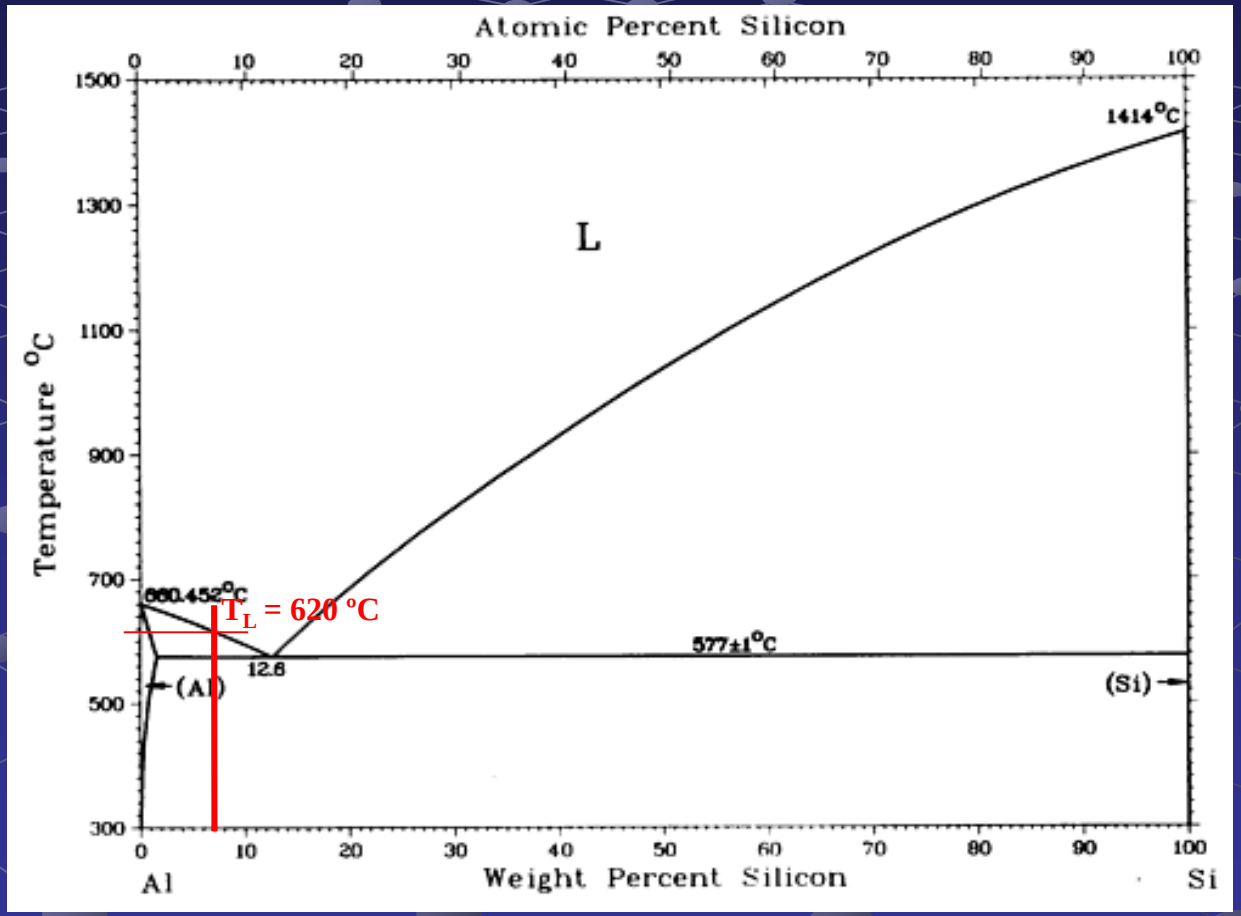




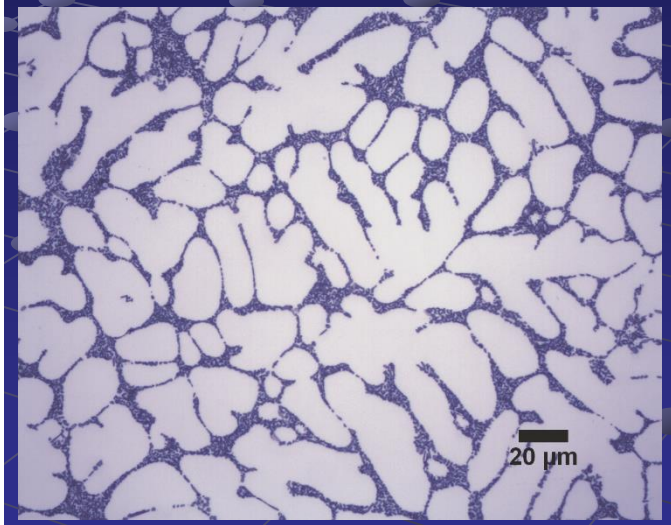
f_{α} = 89 %

f_{Si} = 11 %

DIAGRAMA Al - Si: Eutéctica anormal



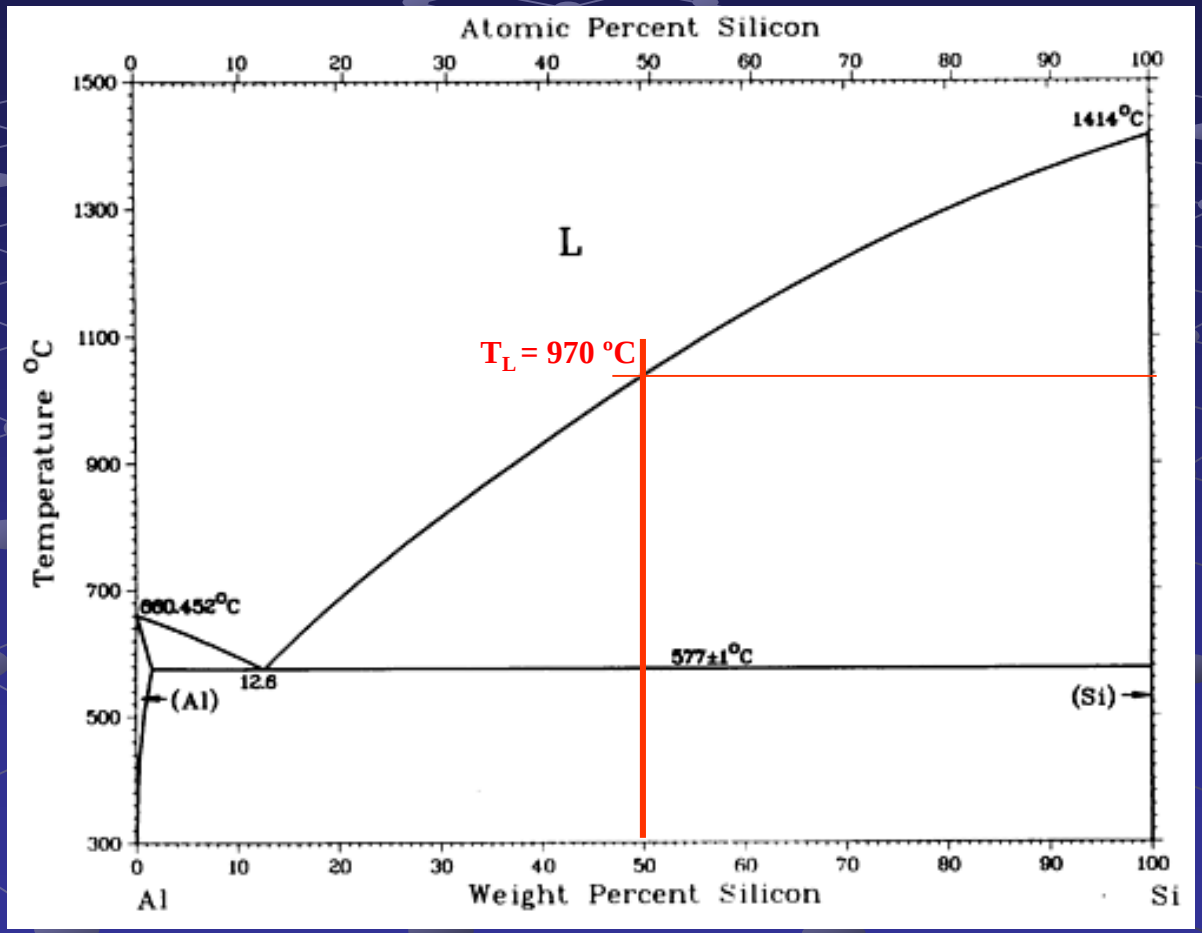
Al – 7 % Si



f_l = 47 %

f_s = 53 %

DIAGRAMA Al - Si: Eutéctica anormal

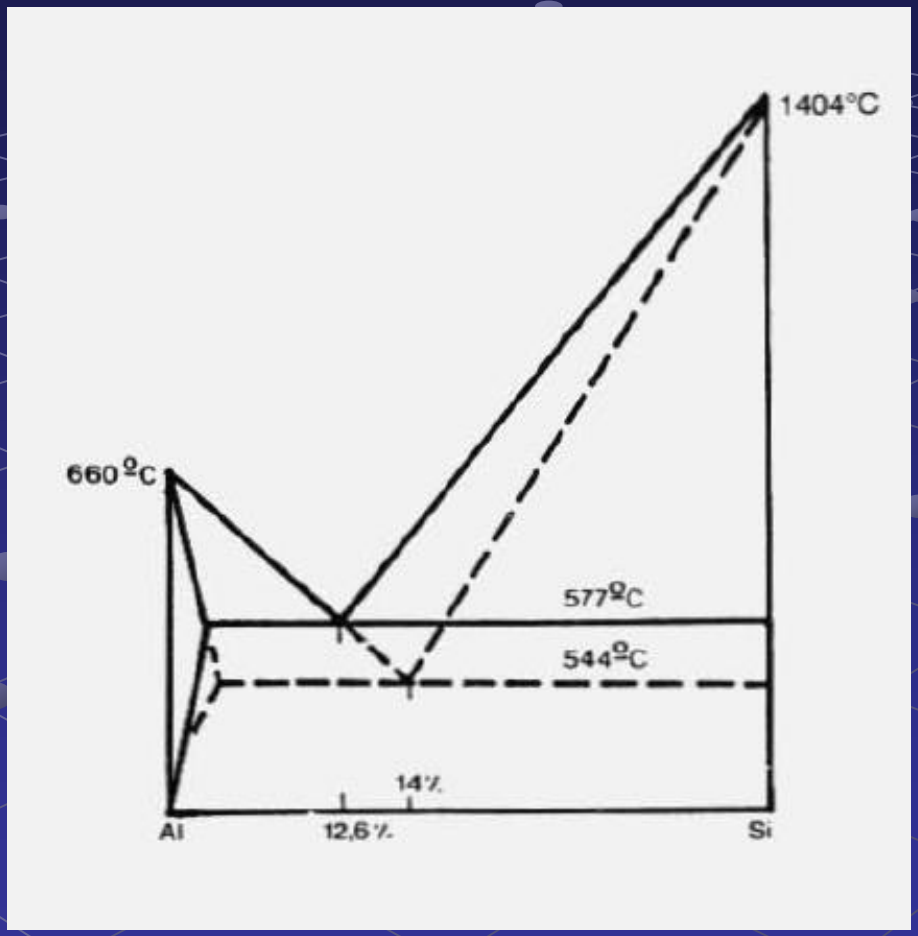


Al – 50 % Si

f_l = 57 %

f_s = 43 %

DIAGRAMA Al - Si: Eutéctica modificada



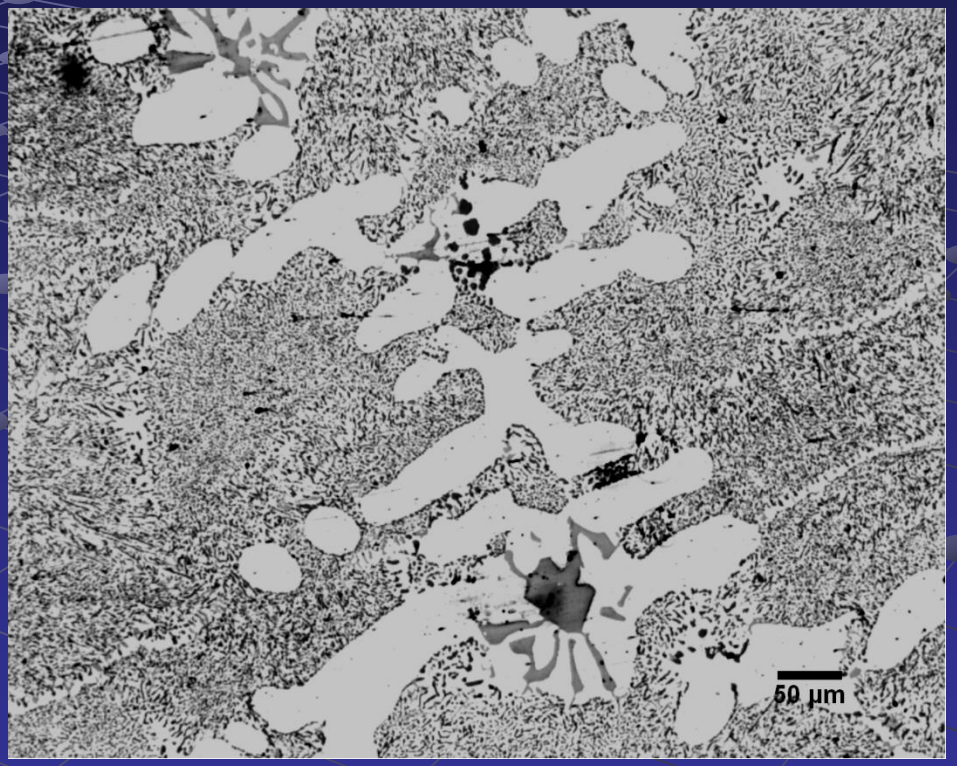
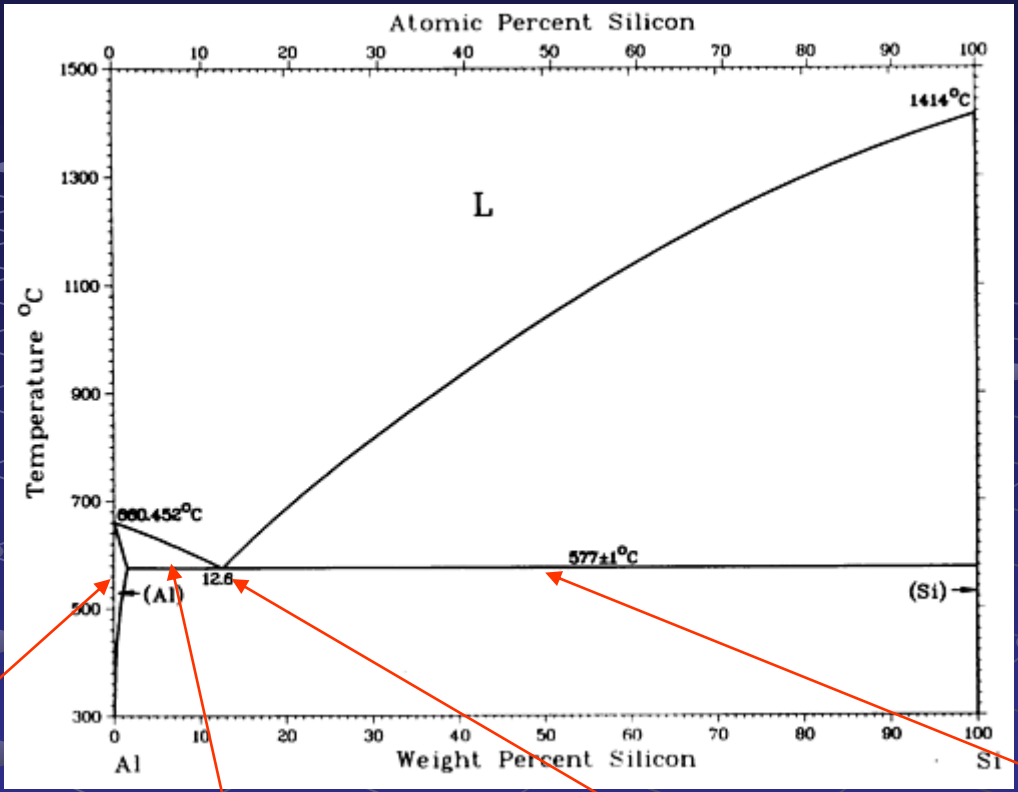
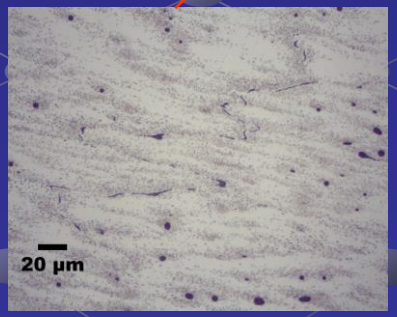
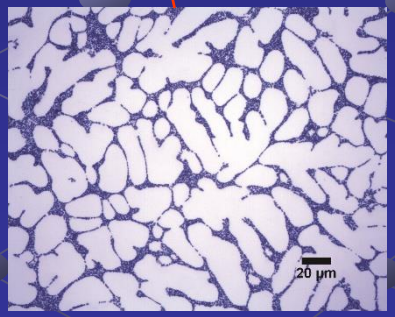


DIAGRAMA Al - Si: Eutéctica anormal

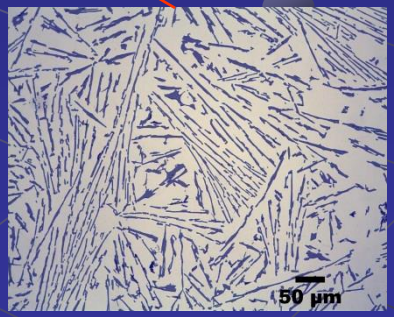




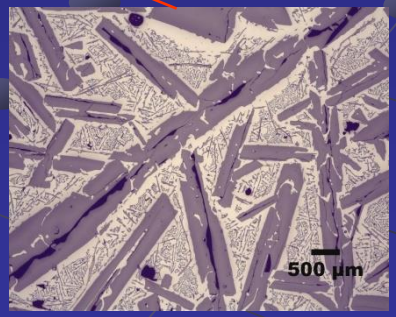
Al – 1 % Si



Al – 7 % Si

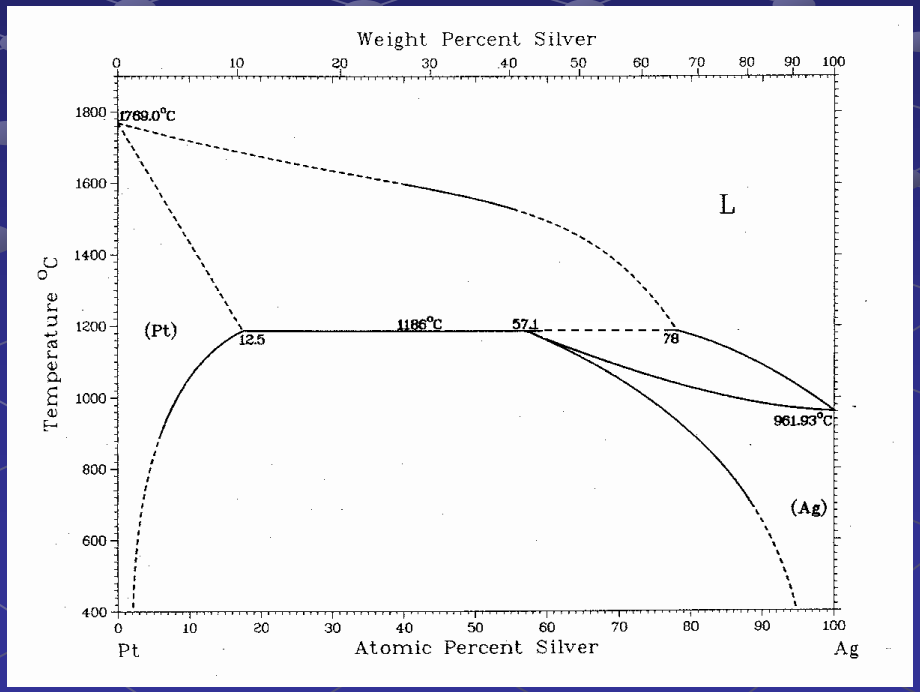


Al – 12,6 % Si



Al – 50 % Si

DIAGRAMA Pt - Ag: Transformación peritéctica



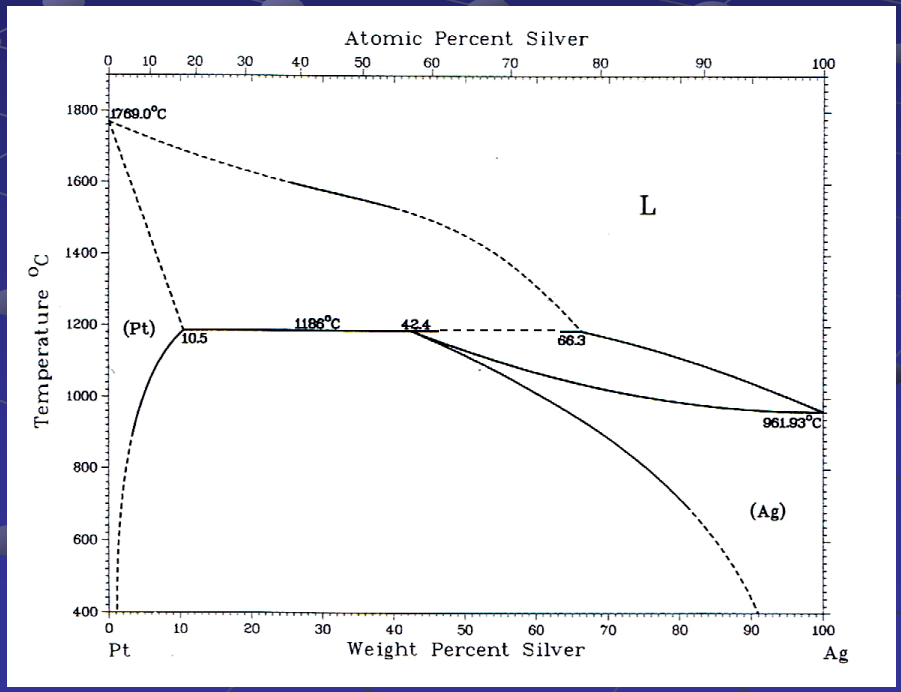
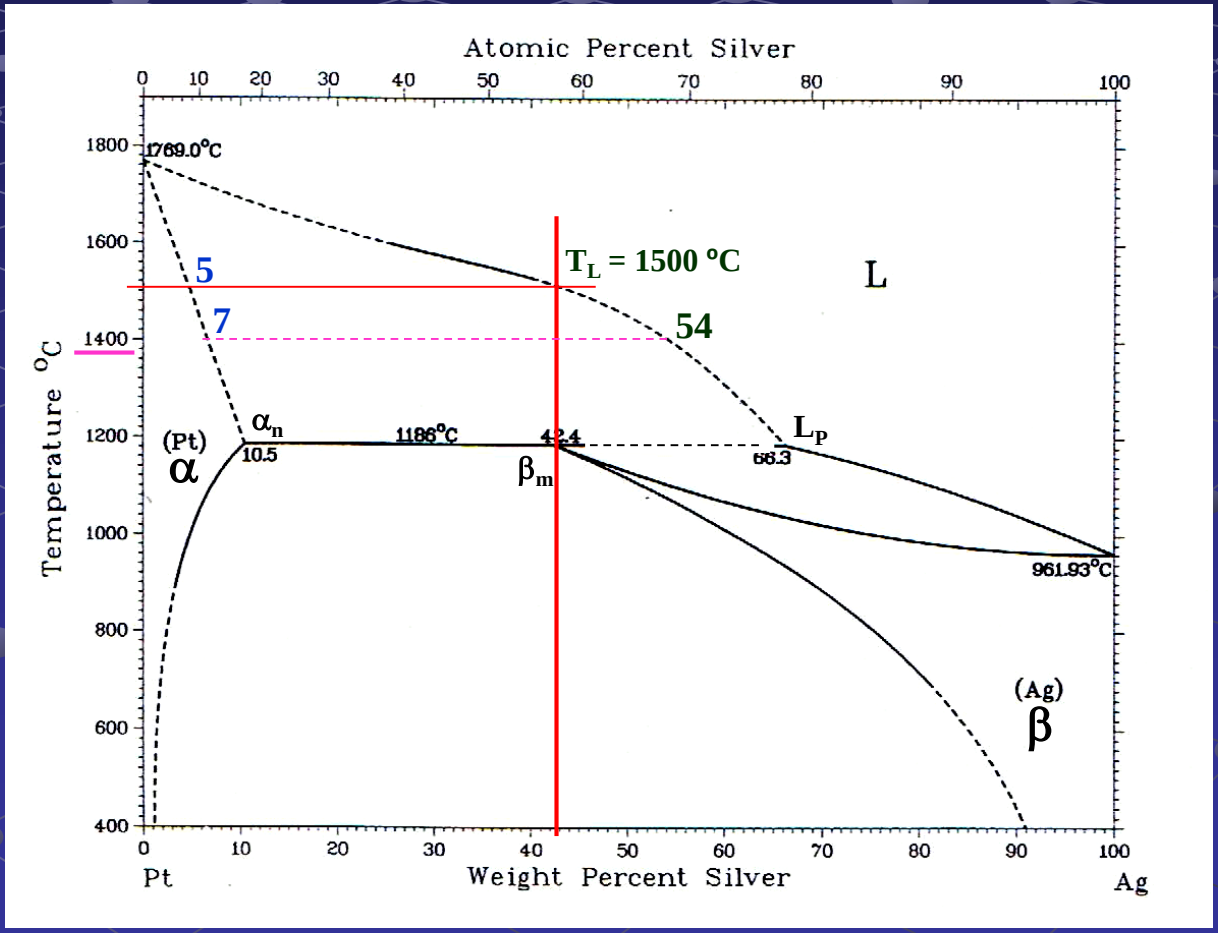


DIAGRAMA Pt - Ag: Transformación peritéctica

Para T = 1186 ºC: $L_{P(Pt - 66,3\ \%\ Ag)} + \alpha_{n(Pt - 10,5\ \%\ Ag)} \Leftrightarrow \beta_{m(Pt - 42,4\ \%\ Ag)}$

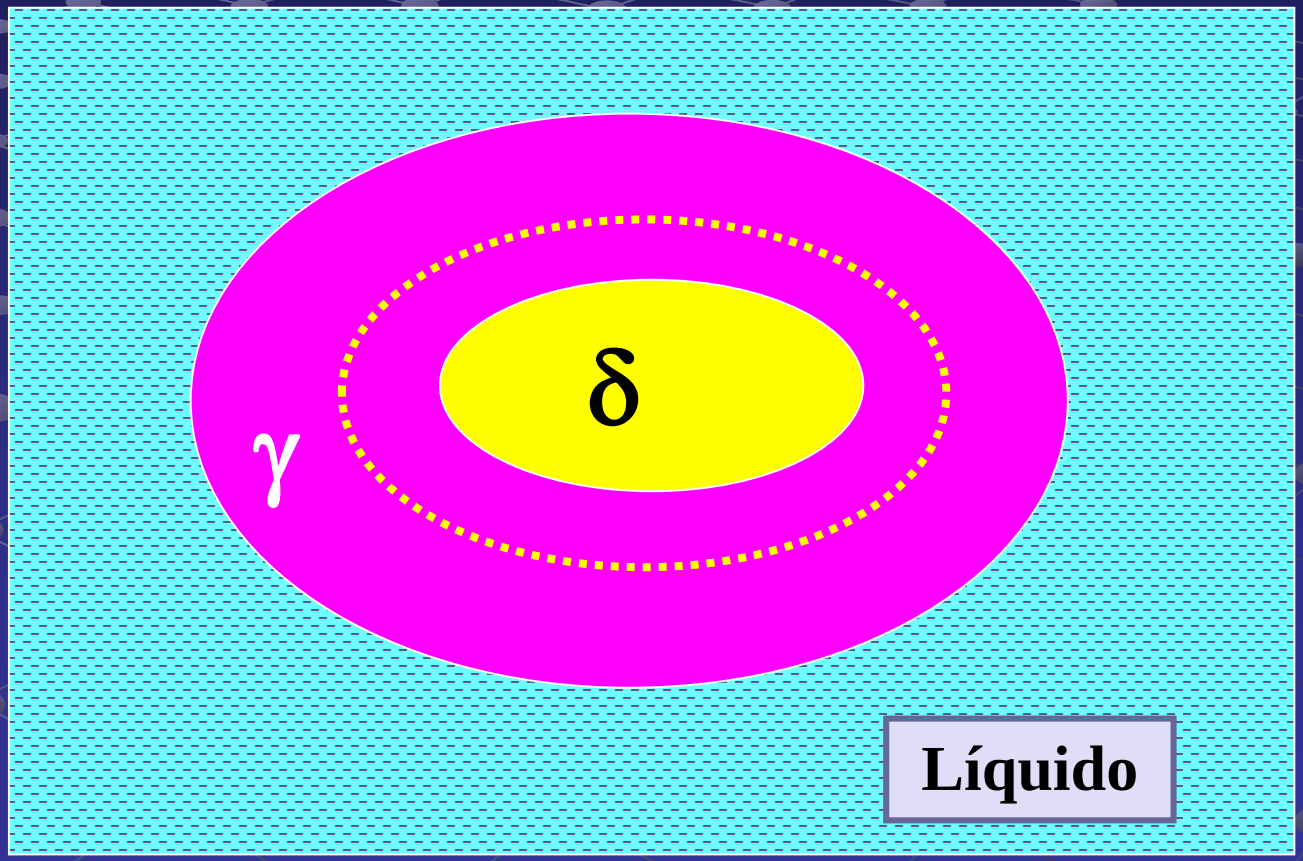


$f_{\alpha n} = 43\ \%$

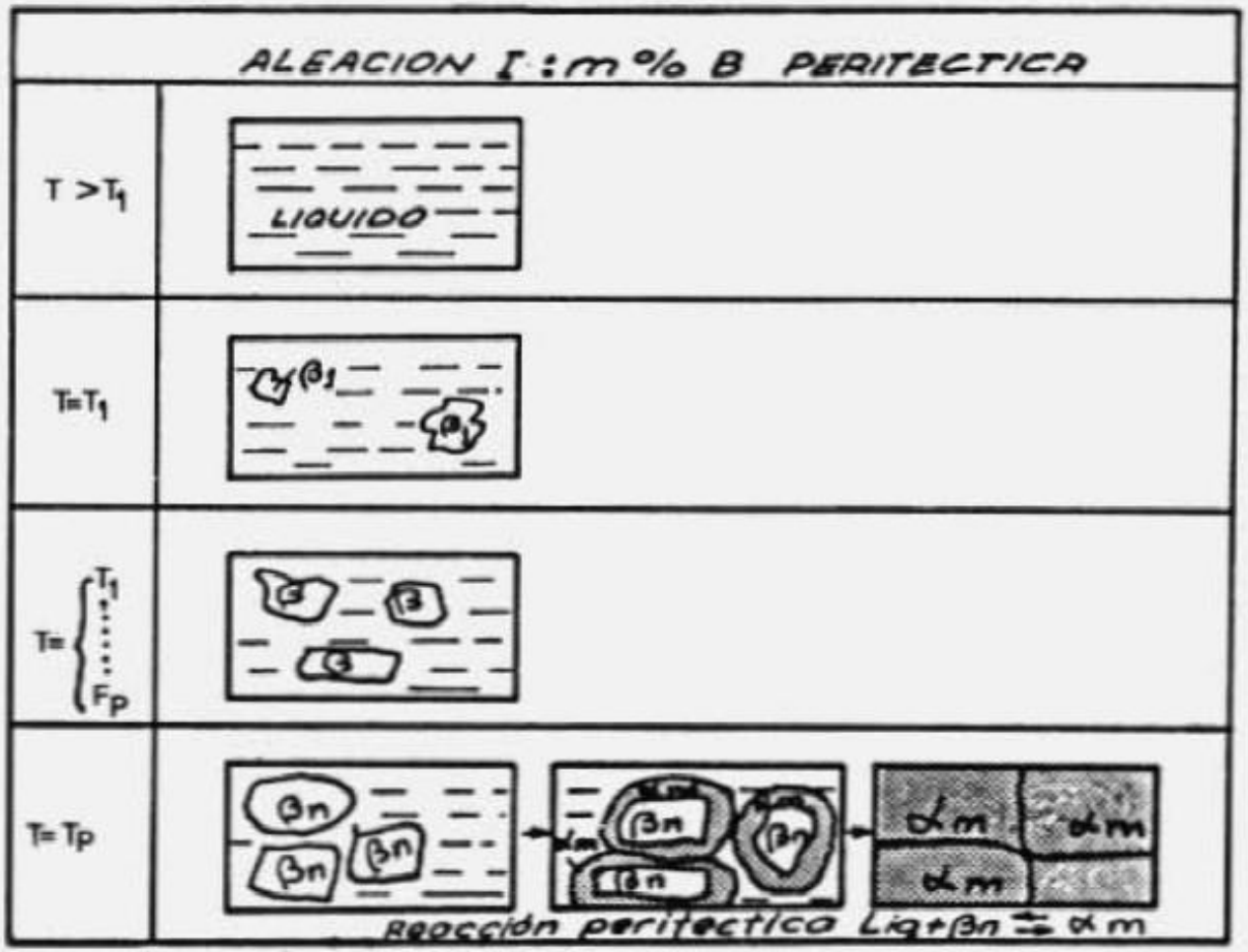
$f_{Lp} = 57\ \%$

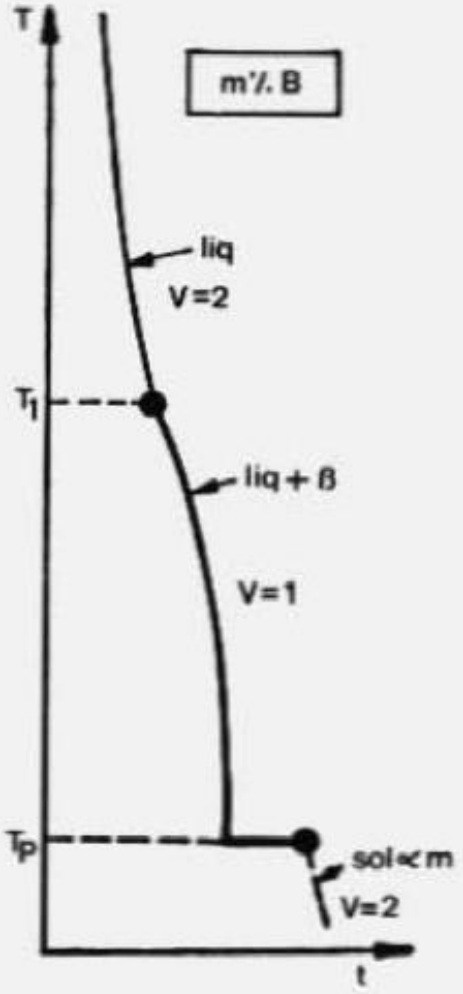
Reacción Peritéctica

$$\delta_{0,09} + L_{0,53} \underset{\text{Calentamiento}}{\overset{\text{Enfriamiento}}{\rightleftarrows}} \gamma_{0,17}$$



Líquido + Sólido $\beta n \rightleftharpoons$ sólido α_m





Reacción Peritéctica Cu - Zn

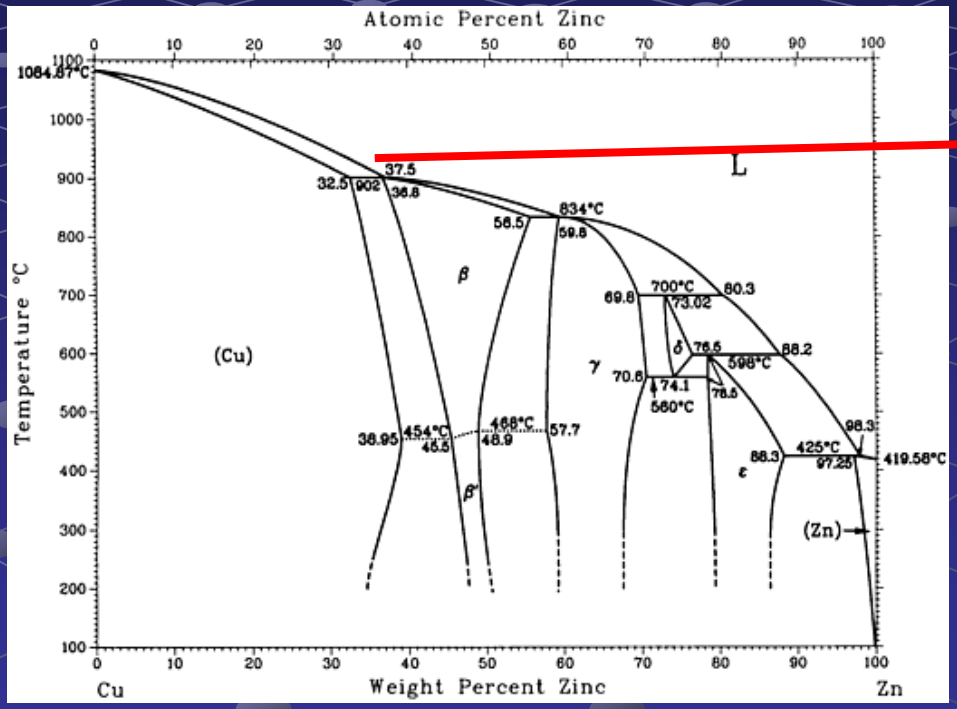
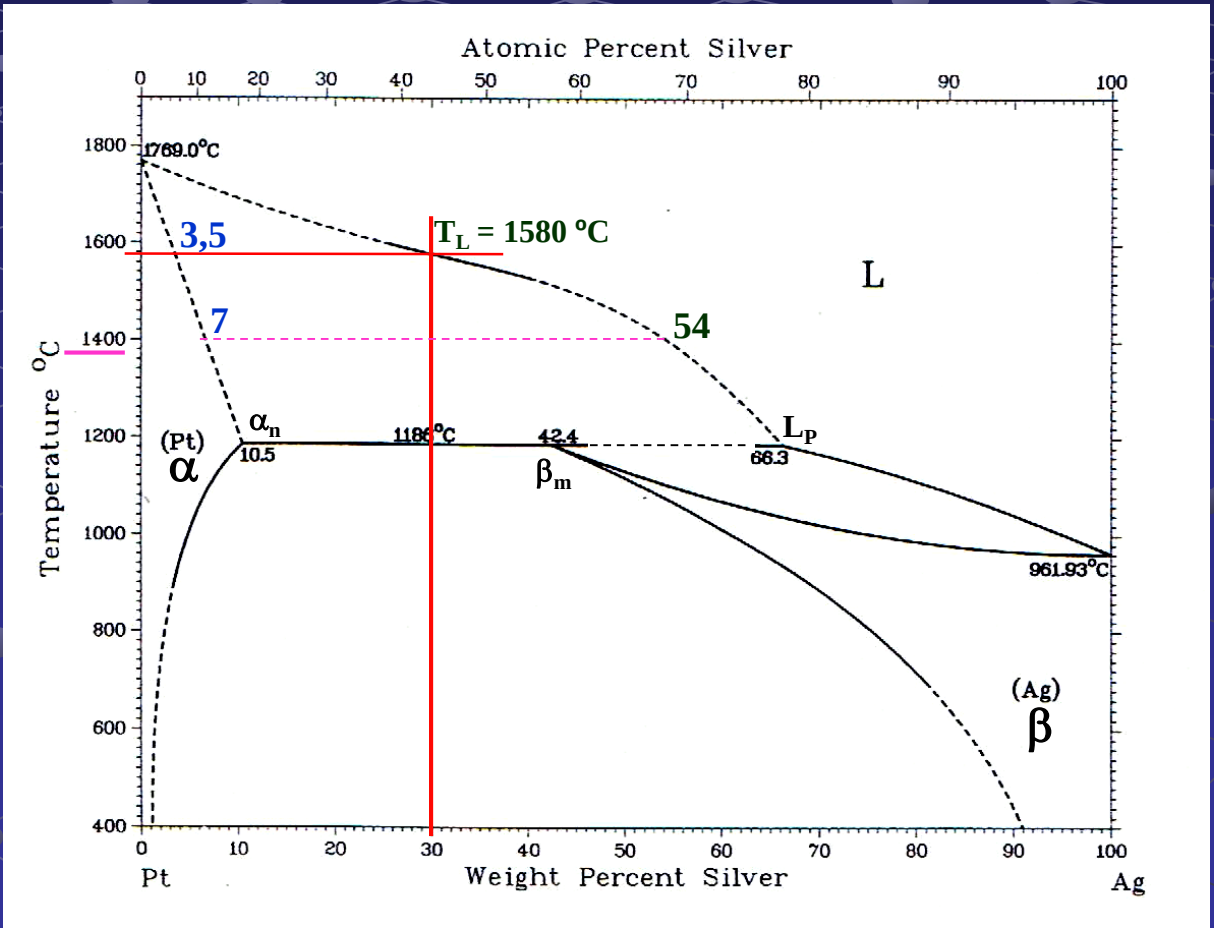


DIAGRAMA Pt - Ag: Transformación peritéctica

Aleación Pt – 30 % Ag



T = 1186 °C

f_α = 65 %

f_L = 35 %

$\underline{T_s = 1186\ °C}$

f_α = 39 %

f_β = 61 %

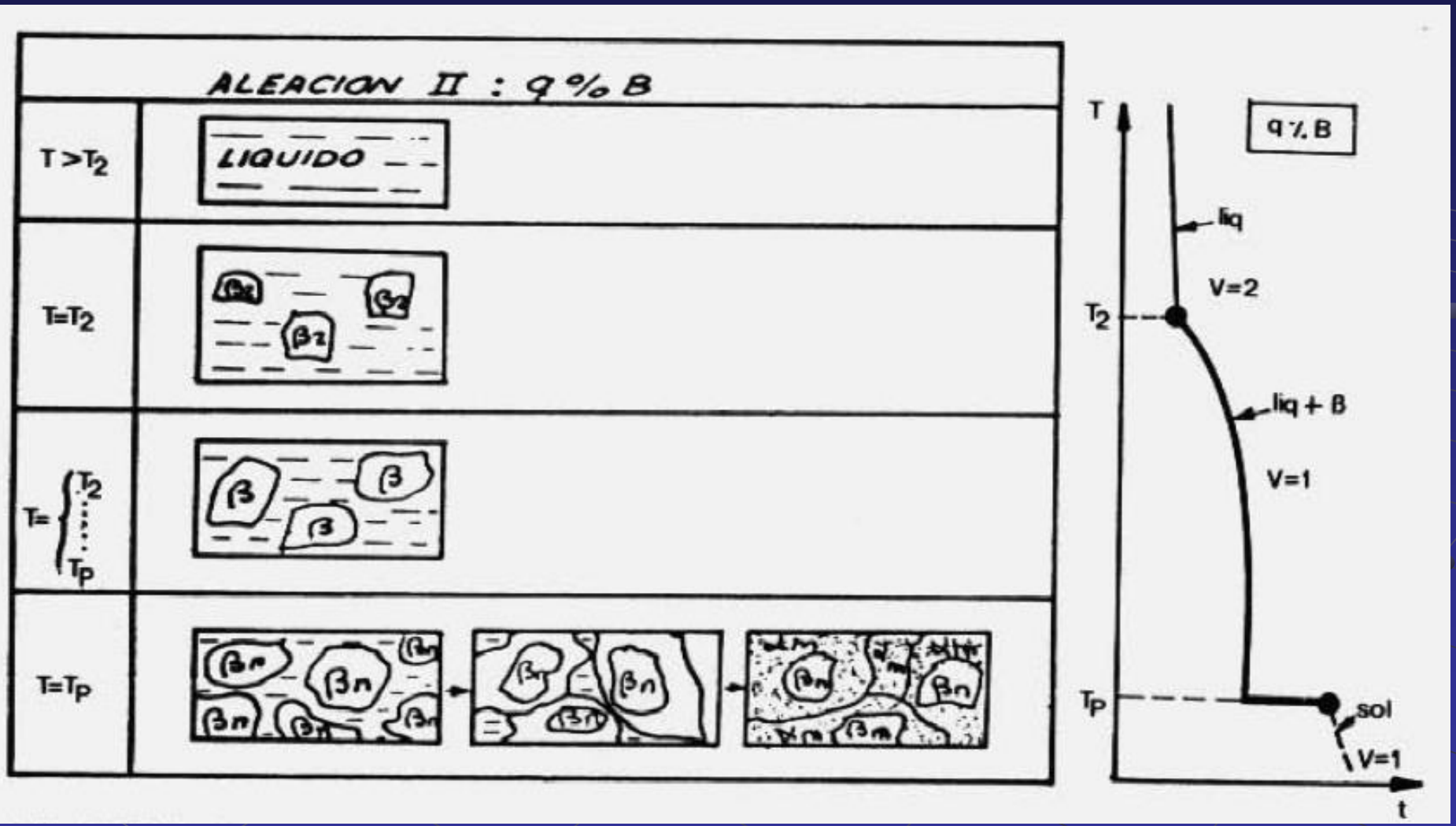
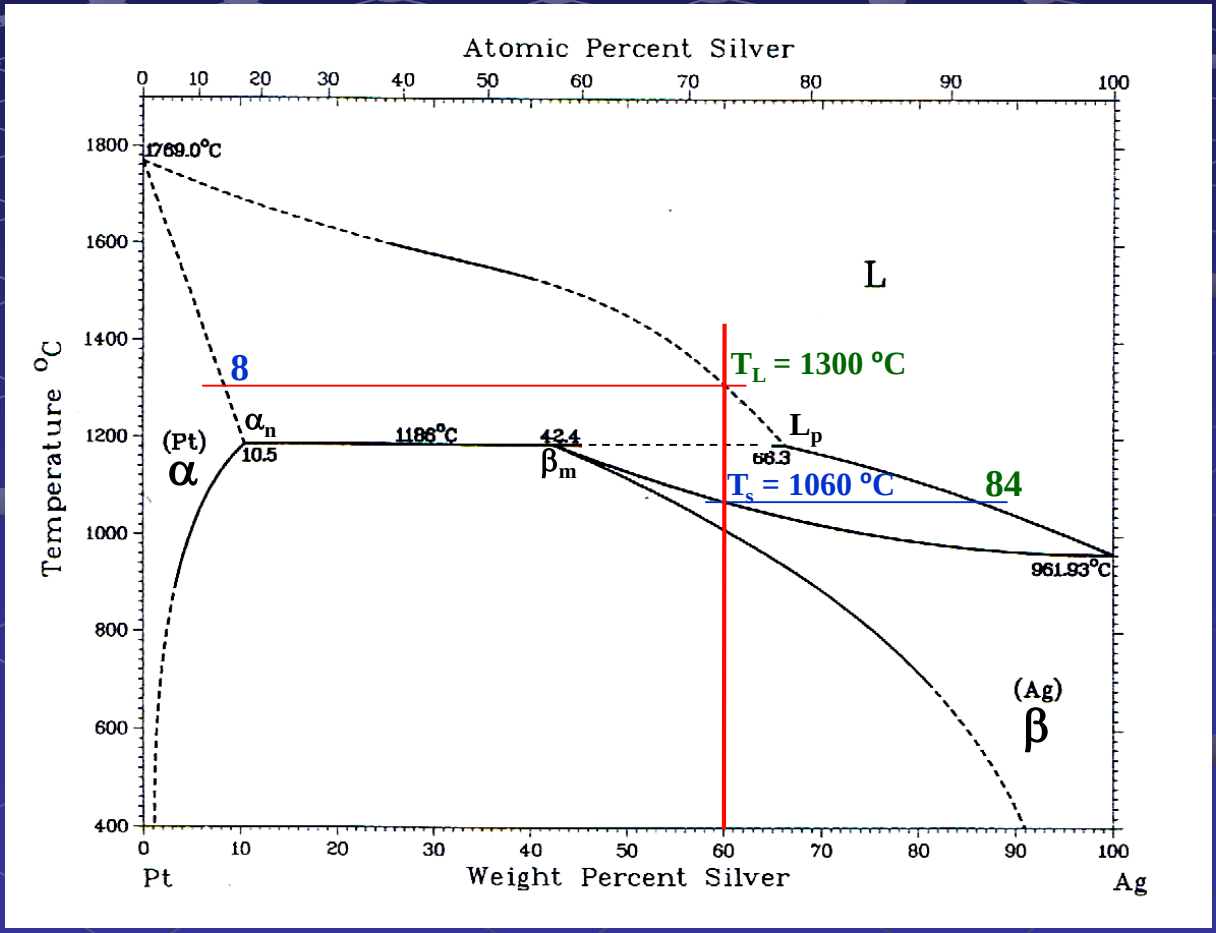

ALEACION II : 9 % B
T > T2
LIQUIDO
T = T2
T = T2 ... Tp
T = Tp
T
9 % B
liq
V=2
T2
liq + β
V=1
Tp
sol
V=1
t

DIAGRAMA Pt - Ag: Transformación peritéctica

Aleación Pt – 60 % Ag



T = 1186 °C

f_α = 12 %

f_L = 88 %

T = 1186 °C

f_L = 74 %

f_β = 26 %

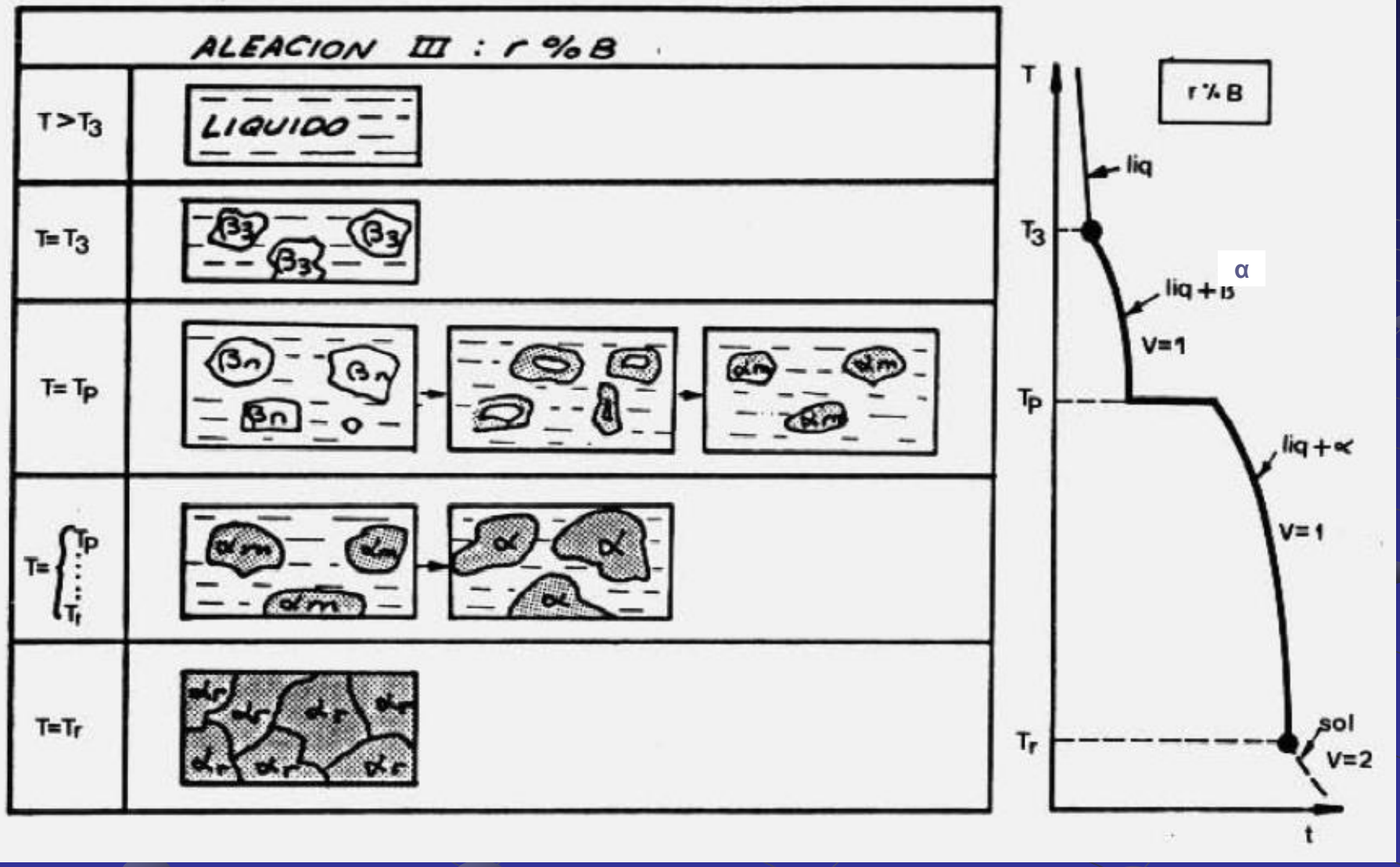
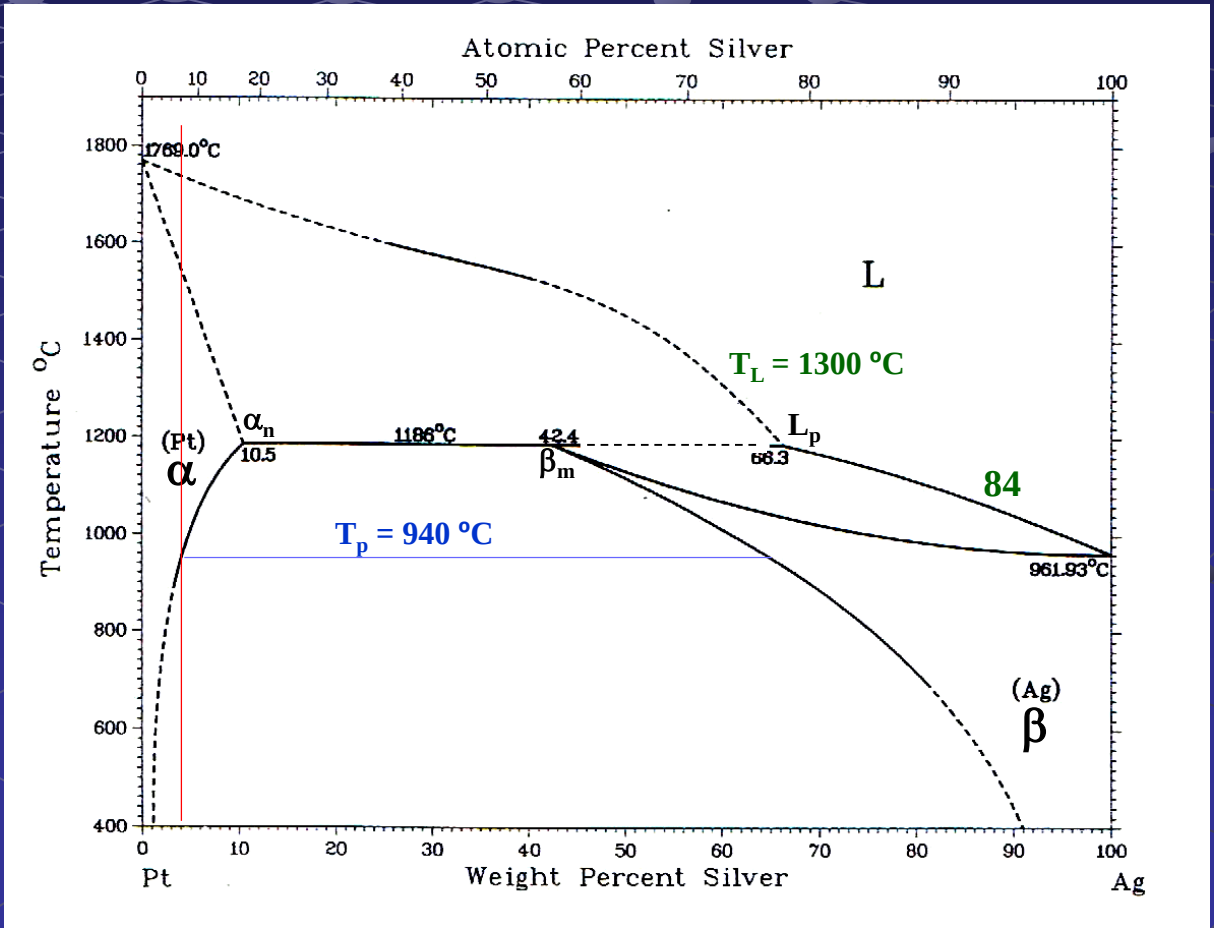

ALEACION III : r % B
T > T3
LIQUIDO
T = T3
T = Tp
T = Tp ⋮ Tf
T = Tr
T
r % B
liq
T3
liq + β
V=1
Tp
liq + α
V=1
Tr
sol
V=2
t
α

DIAGRAMA Pt - Ag: Transformación peritéctica

Aleación Pt – 4 % Ag



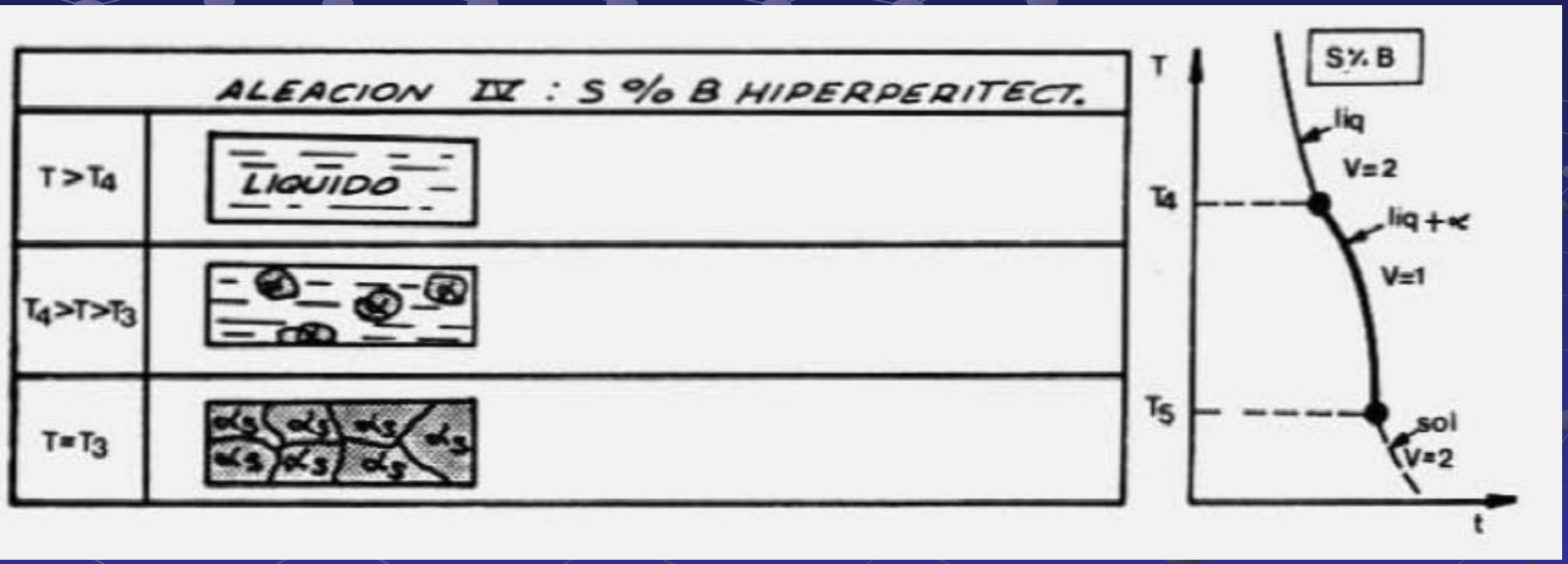
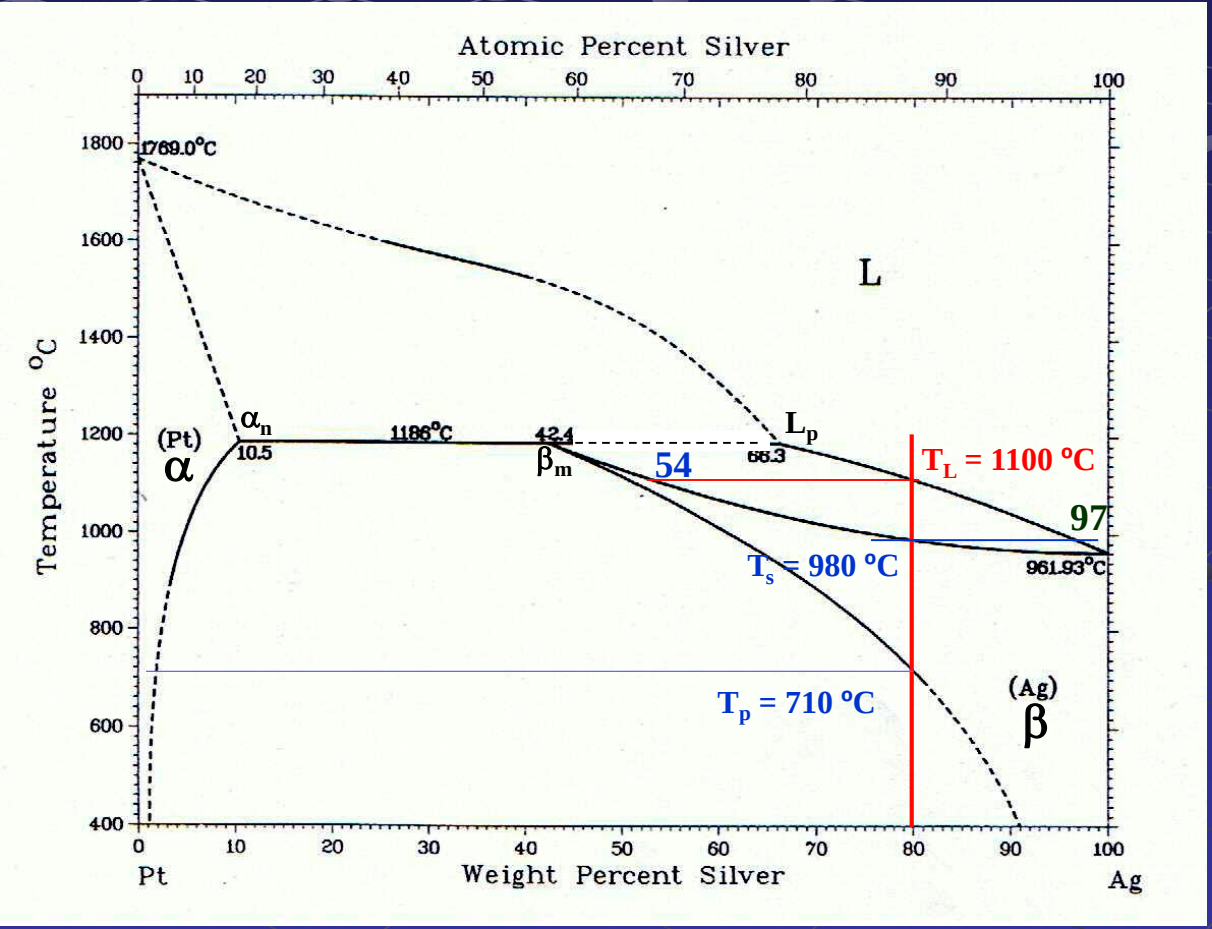
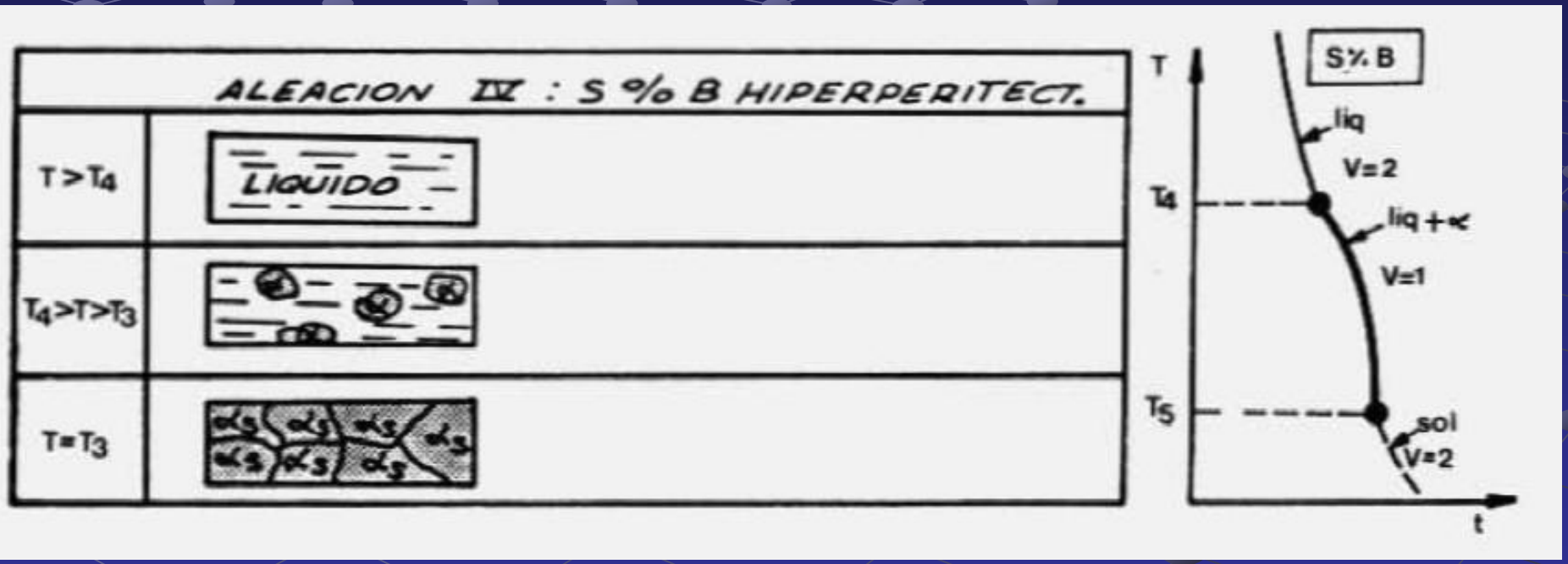

ALEACION IV : 5 % B HIPERPERITECT.
T>T4
LIQUIDO
T4>T>T3
T=T3
T
T4
T5
t
5% B
liq
V=2
liq + α
V=1
sol
V=2

DIAGRAMA Pt - Ag: Transformación peritéctica

Aleación Pt – 80 % Ag




ALEACION IV : 5 % B HIPERPERITECT.
T>T4
LIQUIDO
T4>T>T3
T=T3
T
T4
T5
t
5% B
liq
V=2
liq + α
V=1
sol
V=2