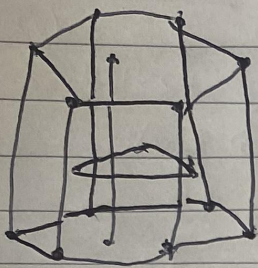


HCP. Hexagonal ^{Closest} ~~Closest~~ Package.



A HCP has a coordination of 12 and contains 6 atoms per unit cell.

C)

$$FCC = 0.74$$

$$HCP = 1.633$$

$$BCC = 0.68.$$

D) The temperature would be liquid.

As the temperature ^{the titanium will begin to become solid.} cools to 1650°C the ~~liquid~~ mixture. But ~~begin~~ ^{the titanium will begin to become solid.}

Will remain as a liquid. Then as the mixture is cooled to 800°C where an eutectic $L \rightarrow \beta + \text{Ti}_2\text{Ni}$ occurs with a concentration of ~~80%~~ ^{80%} of Ni. Thus decreasing the melting point of pure titanium and conforming temperature $\rightarrow (1670^{\circ}\text{C})$.

Alloys with 15 and 20% of nickel will develop a microstructure composed of pre-eutectic precipitates or the β phase in the eutectic matrix although the melting is done under equilibrium conditions.

At 600°C the mixture is solid.