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Question 2 continued.

c) Packing ratios of :-

HCP is 0.74

FCC is 0.74

BCC is 0.68

d) The state of the mixture at 1800°C is liquid.

When cooled slowly, the following phases are observed at these temperatures:-

1650°C starting to change from liquid to solid. ($\beta + L$)

800°C Now a solid ($\beta \text{ Ti}$)

600°C Now at Ti_2Ni_2 .

The mixture is cooling from a liquid state, through to a solid state, passing through α and β titanium. The eutectoid reaction, $\beta \rightarrow \text{Ti}_2\text{Ni}_2$ occurs when the temperature drops below 765°C .

