

Advanced Thermodynamics
Prof. B.S. Murty
Department of Metallurgy and Material Science Engineering
IIT Madras

Solid state phase transformations - Precipitation

Questions:

1. Classify phase transformations based on nature of diffusion.
2. Give a few examples of precipitation reactions in various phase diagrams?
3. What should be the characteristics of a phase diagram to show precipitation hardening?
4. Describe the microstructure that develops in Al-4Cu alloy if it is slowly cooled from solutionising temperature?
5. Show the driving force for precipitation in an Al-4Cu alloy at room temperature using G-X diagram.
6. What are the stages of precipitation in Al-Cu alloy?
7. How is the shape of the precipitate decided by a system?