



Student Note Sheet

Fundamentals of Phase Diagrams with Ansys Granta EduPack Software

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Ansys Software Used

This resource set uses Ansys Granta EduPack™ teaching software for materials education.

Instructions

Use this document to guide note taking during lecture.

Give one example of why you need to understand a material's phase at a specific temperature and pressure

Phase Diagram Definition:

A _____ is the homogeneous portion of a system that has uniform physical and chemical characteristics

A _____ the pure metal and/or compounds that alloys are composed of

Which variable is typically held constant in a binary phase diagram?

What is the difference between an isomorphous and a eutectic binary phase diagram?

Draw lines between the term and its correct definition

Liquidus	Temperature at which solidification, for a specific composition, ends upon cooling
Solidus	Solubility line between the single solid phase and the two solid phase region
Solvus	Temperature at which, for a given composition, solidification begins upon cooling

Write the equation for each phase reaction listed below

Congruent

Monotectic

Eutectic

Eutectoid

Peritectic

Peritectoid

How does the solvus line relate to system solubility?

What is the phase fraction in a single-phase region at a specific composition and temperature?

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Document Information

This case study is part of a set of teaching resources to help introduce students to topics related to fluids.

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