



Refractory Fundamentals: Course Outline

Learn the fundamentals of all classes of refractories and their applications

This course is an introduction to the field of refractory technology. It first addresses the basic aspects of solid-state chemistry and physics necessary to understand refractories. Next, each major refractory composition is discussed in detail, from raw materials to final properties. Finally, the various applications of refractories are discussed.

<u>Class Dates</u>	<u>Topics / Activities During Class</u>
Lecture 1	Definitions
Lecture 2	Atomic Bonding
Lecture 3	Crystal Structures
Lecture 4	Polymorphic Forms
Lecture 5	Glasses
Lecture 6	Phase Diagrams
Lecture 7	Phase Diagrams
Lecture 8	Phase Diagrams
Lecture 9	Silica Refractories
Lecture 10	Alumina-Silica Refractories
Lecture 11	Alumina-Silica Refractories
Lecture 12	Basic Refractories
Lecture 13	Basic Refractories
Lecture 14	Zirconia Refractories
Lecture 15	Fused Cast Refractories



Lecture 16	Non-Oxide Refractories
Lecture 17	Composite Refractories
Lecture 18	Composite Refractories
Lecture 19	Insulating Refractories
Lecture 20	Castable Refractories
Lecture 21	Castable Refractories
Lecture 22	Iron & Steel Applications
Lecture 23	Iron & Steel Applications
Lecture 24	Non-Ferrous Applications
Lecture 25	Glass & Mineral Applications
Lecture 26	Ceramic & Chemical Applications