



Properties and Testing of Refractories: Expected Course Outline

July 14-16, 2026

A three-day course sponsored by the Edward Orton Jr. Ceramic Foundation and The American Ceramic Society

<https://ceramics.org/course/homeny-properties-and-testing-refractories/>

Course Description:

This course is an intensive combination of classroom lectures and laboratory demonstrations that address most of the significant properties of refractories, both theoretically and experimentally. The morning lectures will emphasize common refractory testing techniques and microstructural-property relationships for all classes of refractories. The afternoon laboratory sessions are designed to give the participants experience with common refractory tests. The individual sessions are titled in the accompanying outline of the daily topics.

Who Will Benefit from This Course:

Engineers, managers, contractors, purchasing agents, furnace operators, maintenance supervisors, and technicians who are involved in the manufacturing, marketing, research and development, or consumption of refractory materials will find this course beneficial. A high level technical or engineering background is not essential to take this course, although technical professionals will find the subject matter informative and useful.

Course Objectives:

The objectives of this course are to introduce the participants to the fundamentals of common refractory testing techniques and the microstructural-property relationships for all classes of refractories. The laboratory sessions are designed to provide the participants with direct experience in fabricating test specimens and the application of standard ASTM test methods.

Class Dates	Topics / Activities During Class	
July 14, 2025	- Thermal Properties - Mechanical Properties - Corrosion Properties	- Thermo-Mechanical Properties - Standard Test Methods - Laboratory Session
July 15, 2025	- Silica Refractories - Alumino-Silicate Refractories - Basic Refractories	- Special Refractories - Standard Test Methods - Laboratory Session
July 16, 2025	- Non-Oxide Refractories - Composite Refractories - Monolithic Refractories	- Insulating Refractories - Standard Test Method