



Properties of Materials

MODULE

About the Skill Module

With time, significant improvements have been made to metal compositions to ensure increased safety, operability, and reliability of the finished product in the field. These improvements have been documented in standards such as American Society of Mechanical Engineers (ASME). Knowledge of these standards is crucial to understanding design and fabrication specifications. This skill module provides an overview of the standards that impact the design and fabrication of pressure vessels.

[See example Mechanical eLearning module](#)

Target Audience

Facilities Engineers, Process Engineers, Senior Operations Personnel, Field Supervisors, Engineers who select, design, install, evaluate or operate gas processing plants and related facilities

You Will Learn

Participants will learn how to:

- Recognize the basic materials used in pressure vessels
- Define what materials are acceptable and which are not for vessels as compared with piping
- Compare the chemical and physical characteristics of plates, forgings, and piping materials
- Name the most common steel making process for fine grain pressure vessel steel
- Describe the difference between “as rolled” and normalized plate grain structure
- Discuss the iron carbon phase diagram
- Discuss the characteristics of Austenitic Stainless and Martensitic Stainless Steels
- Identify uses of Austenitic Stainless in low temperature applications
- Discuss uses of Martensitic Stainless
- Describe an overview of Duplex Stainless materials
- Discuss Low Alloy Chrome Moly materials for high temperature applications
- Define the types of cladding
- Discuss the advantages of each type
- Review the steps necessary to produce a clad plate in each process

Product Details

Categories: Midstream

Disciplines: Mechanical Engineering

Levels: Basic

Product Type: Individual Skill Module

Format: On-Demand

Duration: 2.5 hours (approx.)

\$250.00