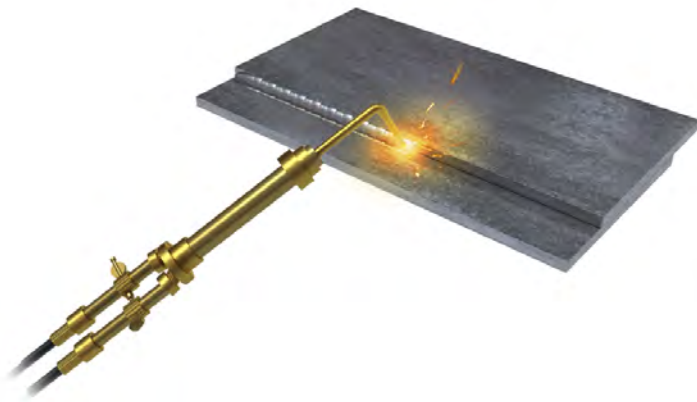


WELDING FUNDAMENTALS

eLearning courses designed to increase productivity and profits



Learning made Simple, Visual, and Interactive

Welding Fundamentals provides an introduction to the concepts, equipment, and processes utilized by modern welders and welding companies. Presented in THORS' highly visual and interactive learning format, this course will help employees in welding industries become familiar with the important equipment and terminology associated with their profession.

Credit Hours **2**

Learning Objectives

- Differentiate between the functions of various welding safety apparel.
- Recognize some of the basic equipment used in welding-related industries.
- Recall basic terminology and phrases associated with welding equipment.
- Identify the differences between prominent welding processes.
- Recall common welding positions and techniques.

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I. Welding Concepts

- **Welding Concepts**
- **Protective Gear**
- **Safety Hazards**
 - Electric Shock
 - Fumes and Gases
 - Fire and Explosions
- **Electric Current**
- **Welding Power Supplies**
 - Welding Transformers
 - Welding Generators
 - Welding Inverters
- **Weldability of Metals**

II. Welding Processes

- **Arc Welding**
 - Shielded Metal Arc Welding (SMAW)
 - Gas Tungsten Arc Welding (GTAW)
 - Gas Metal Arc Welding (GMAW)
 - Flux-Cored Arc Welding (FCAW)
- **Spot Welding**
- **Seam Welding**
- **Laser Beam Welding**
- **Electron Beam Welding**
- **Chemical Welding**
 - Gas Welding
 - Thermite Welding

III. Welding Positions and Techniques

- **Weld Types**
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 - Lap and Tee Joint
 - Cladding and Butt Joint
- **Parts of a Weld**
 - Fillet and Groove Weld
- **Welding Positions**
 - Fillet Weld Flat, Horizontal Vertical, and Overhead
 - Groove Weld Flat, Horizontal Vertical, and Overhead
- **Fume Hood Positions**
 - Beside, Above, Beginning, and Over Vertical Weld

