

# Welding Technology eLearning | Creating High-Quality Welds

Welding Preparation - WX12213-XA01AEN-E1

Objective 3: Define Shielded Metal Arc Welding (SMAW) and Give an Application

Knowledge Check: SMAW

What is the name of the flux-covered rod used in SMAW?

- Electrode
- Welding puddle
- Base metal

Choose the best answer for the question.

This page is interactive. Click anywhere to hide the instructions.

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## eLearning Course: M12213

Welding plays a critical role throughout our economy. It is central to many industries including manufacturing, construction, and aerospace to name only a few. Welding is a blend of both art and science, joined together to create enduring bonds that allow us to create structures and machines on a scale impossible to achieve without it. This Welding Technology multimedia eLearning teaches how to safely create an array of high quality weld types.

## Teach Welding Technology

### Welding Preparation

Learners begin with an introduction to welding, including welding safety, angle grinder operation, and workpiece preparation. Individual lessons focus on topics like 11 safety rules, types of clamping devices, operation of a GMAW welder, and angle grinders. Learners will also practice skills, such as using an angle grinder and degreasing metal for welding.

### Basic Welding

Learners will study the components and operation of basic welding, including welder set-up, welder adjustment, tack welds, and butt joint welds. Individual lessons focus on topics like installing a gas cylinder, how to set wire feed speed settings, a tack weld's application, and welding techniques for four different positions. Learners will also practice skills, such as replacing welding wire, selecting voltage, running a bead using a GMAW welder, and welding a butt joint in multiple positions.

### Welded Joints

Learners using Amatrol's basic welding eLearning course will study welded joints, including weld components, welding flaws, lap joints, T-joints, and corner joints. Individual lessons focus on topics like five parts of a weld, characteristics of a good weld, welding a lap joint in multiple positions, and welding a closed corner. Learners will also practice hands-on skills, such as visually inspecting a groove weld, welding a lap joint, welding a T-joint, and welding a closed corner.

### Welding Analysis

Learners will study various aspects of welding analysis, including: round stock, non-destructive tests, destructive

tests, and welding symbols. Individual lessons focus on three types of round stock, five non-destructive test methods, five destructive test methods, and interpreting welding symbols. Learners will also practice skills, such as welding round tubing in the fixed horizontal position, using a dye penetrant test to evaluate a weld, using a guided bend test to evaluate a weld, and designing a welded project.

## **Interactive eLearning**

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### **Interactive Welding Technology Multimedia Curriculum**

Amatrol's [unmatched multimedia](#) utilizes text, audio, and stunning 3D animations that engage learners in both theoretical knowledge and concepts. This thorough, exceptionally detailed curriculum is built to begin with the basics and steadily advance to more complex concepts. Through partnerships with key industry leaders and leading edge educators, Amatrol developed the right balance of knowledge needed to train learners to work in their chosen field.

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#### **Address**

**Amatrol  
2400 Centennial Blvd  
Jeffersonville, IN 47130**

#### **Contacts**

**email: [contact@amatrol.com](mailto:contact@amatrol.com)  
phone: (800) 264 8285**