Arkansas CTE

Gas Tungsten Arc Welding: Grades 10, 11, 12

Adopted 2013

Identify and demonstrate welding safety

1.1 Understand the hazards of welding and develop the proper attitude toward safety.

1. Identify some common hazards in welding and identify proper PPE used in welding. 1.1.1
2. Describe and demonstrate how to avoid welding fumes, how to avoid electric shock when welding, and some of the causes of accidents. 1.1.2
3. Identify and explain uses for material safety data sheets. 1.1.3
4. Explain and demonstrate safety techniques for storing and handling cylinders. 1.1.4
5. Describe and demonstrate proper material handling methods. 1.1.5

Demonstrate an understanding of GTAW equipment and functions.

2.1 Identify and demonstrate the use of GTAW equipment.

1. Demonstrate gas tungsten arc welding (GTAW) safety and identify and explain the function of GTAW equipment. 2.1.1
2. Demonstrate the function of GTAW filler metals and identify and explain the function of GTAW shielding gases and set up GTAW equipment. 2.1.2

2.2 Identify and perform various groove welds.

1. Identify and demonstrate groove welds and groove welds with backing. 2.2.1
2. Perform multiple-pass GTAW fillet welds on carbon steel plate coupons in the following positions, using carbon steel filler metal:
1F
2F
3F
4F 2.2.2
3. Explain GTAW, set up equipment to weld aluminum plate, and practice GTAW techniques for plate including padding in the flat position with stringer beads, using aluminum filler metal. 2.2.3
5. Perform fillet welds and v-groove welds on aluminum plate in the following positions:
1F (flat)
2F (horizontal)
1G (flat)
2G (horizontal) 2.2.5