

# COMPETENCY PROFILE

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## GTAW ALUMINUM PRACTICES

**BTC: WLD 246 (2 credits)**

GTAW lab practice using various thicknesses of aluminum material in all positions, for the beginner or advanced welder. Students will demonstrate correct and safe handling use of bottled gases, wire selection and troubleshooting techniques.

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- Demonstrate safe and effective welding and shop working practices.
- Demonstrate use of proper welding-related terminology related to the GTAW process.
- Explain what makes Tungsten a good electrode.
- Demonstrate proper equipment set-up & trouble-shooting of a GTAW system.
  - ✓ Proper polarity selected
  - ✓ Proper work clamp placement used
  - ✓ Safe handling of compressed shielding gas bottles is demonstrated
  - ✓ Compressed gas bottle is properly secured
  - ✓ Regulator is correctly installed and set at proper flow rate
  - ✓ Correct shielding gas is being used
  - ✓ Gas is turned "on" for welding
- Demonstrate proper Tungsten preparation.
- Demonstrate that proper welding wire & alloy is being used for welding base metal alloy & thickness of material selected.
- Demonstrate proper Tungsten preparation.
- Demonstrate proper joint preparation for GTAW of aluminum.
- Demonstrate competency in GTAW techniques with solid wire on aluminum in the Flat & Horizontal Fillet positions:
  - ✓ Weld deposited with complete fusion
  - ✓ Bead shape is slightly convex and uniform in appearance
  - ✓ Weld is free from slag, undercut, cracking & porosity
  - ✓ Proper overlapping with a uniform appearance

**Assessment:** student and teacher complete the GTAW Assessment Record checklist and schedule an appointment with BTC instructor for final assessment to be completed at the college.

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### College Textbook Reference:

Welding Principles and Applications; Sixth Edition; Larry Jeffus

This document certifies that this student completed the required coursework as defined by the Whatcom County Tech Prep Articulation Agreement and has demonstrated mastery for college credit. Further information about any aspect of this program may be obtained by contacting the school and instructor named on this profile.

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