EXPLAIN GMA/MIG/MAG ALUMINIUM WELDING

ST040E02

Course Format: Online training with posttest

I-CAR Credit Hours: 1 hour

Points: 0.25

This course helps satisfy ProLevel training requirements for the following roles:

Structural Technician

Summary

Aluminium GMA Welding Theory teaches you the fundamentals of aluminium welding. The course covers terminology, equipment, preparation, and effective welding techniques. You will expand your repair capabilities and be able to meet the growing demand for qualified aluminium welding technicians.

Knowledge and Skill Area Definition

Technician is able to prepare a surface for GMA welding aluminium, identify equipment power requirements, setup and use a welder, and make quality welds on aluminium.

ST040E02 is a recommended prerequisite for WCA03

Knowledge Detail

- Perform machine setup and maintenance of GMA welding equipment.
- Perform a combination of plug, fillet, butt joint with backing, and vertical and horizontal open butt joint welds on aluminium coupons.
- Conduct visual and destructive tests on welds.
- Explain key differences between welding aluminum and welding steel.
- Describe welding transfer techniques for aluminum.
- Explain how different electrode wire series affect the strength and integrity of welds.
- Describe the tools and equipment used for aluminum welding.
- Recognize considerations such as shielding gas, gas flow rate, and difference among shielding gas nozzles.
- Describe how to prepare aluminum surfaces for welding.
- Explain different welding techniques including push vs. pull technique, work angle, gun angle, travel speed, and body positioning.
- Adjust amperage, wire speed, voltage, and arc length on specific welding machines.
- Use recommended techniques to ensure quality welds.
- Recognize several types of welding defects.
- Explain how to protect vehicles and nearby area while welding.

©2019 Inter-Industry Conference on Auto Collision Repair