COMWELD AL4043

- **Aluminium - 5% Silicon Alloy Rod.**
- **Suitable for Gas Welding and Gas Tungsten Arc (GTAW / TIG) Welding Applications.**
- **Embossed with AS / AWS Class '4043'.**
- **2.5 kg Cardboard Pack / 15kg Carton.**

Classifications:

AS 1167.2:	R4043.
AWS/ASME-SFA A5.10:	R4043.

Description and Applications:

Comweld AL4043 is a premium quality Aluminium - nominal 5% Silicon alloy rod used extensively for the repair welding (fractures and blow holes etc) of selected* aluminium alloy castings.

Its lower weld deposit strength and excellent crack resistance make it suitable for the Gas or Gas Tungsten Arc (GTAW / TIG) welding of cast (mainly 4XX & 6XX series) alloys and wrought (selected 1XXX, 5XXX & 6XXX series) aluminium alloys, except where an accurate colour match is required after anodising.

WELD DEPOSIT PROPERTIES:

Typical Weld Metal Tensile Strength	110 MPa.
Approximate Melting Point	630°C
Post Anodised colour tint	Grey

ROD ANALYSIS LIMITS:

Single values are maximum allowable, unless otherwise stated.

Si: 4.5-6.0%	Fe: 0.80%	Cu: 0.30%
Mn: 0.05%	Mg: 0.05%	Zn: 0.10%
Ti: 0.20%	Total others: 0.15%	
Al: Balance		

COMPARABLE CIGWELD PRODUCTS:

Autocraft AL4043 GMAW wire
AWS A5.10: ER4043

Packaging Data:

Rod Size (mm)	Pack Weight/Type	Carton Size	Approx. Rods/kg	Part No
1.6 x 914	2.5kg Pack	15kg	210	321610
2.4 x 914	2.5kg Pack	15kg	90	321611
3.2 x 914	2.5kg Pack	15kg	51	321612

*See CIGWELD Aluminium Alloy Selection Chart for detailed welding consumable selection criteria for a wide range of Aluminium alloy parent metals.

Procedure for Gas Tungsten Arc (TIG) Welding:

1. Thoroughly clean all areas to be joined.
2. For the butt welding of thick plates, bevel edges to 65°-75° included angle.
3. Use a Zirconiated tungsten electrode, ground to a tapered blunt point (half the diameter of electrode) making sure the grinding lines run with the length (longitudinally) of the electrode's axis. The length of the point should be approximately 2-3 x the diameter of the tungsten electrode. For best results the tungsten electrode requires a radius or 'balled' end, this is done by heating the newly prepared tungsten at approximately 30 amps higher than the recommended welding current under the welding arc.
4. Use High Frequency stabilised Alternating Current (AC-HF) and Welding Grade Argon.
5. Preheat thick sections before welding. Heat a spot on the base metal until it shows signs of melting and progressively add the filler rod to the weld pool.

Procedure for the Gas (Fusion) Welding of a Fractured Aluminium Casting:

1. Thoroughly clean all areas to be welded either mechanically or chemically.
2. Apply Comweld Aluminium flux (Part Number: 321740) to the areas to be joined.
3. Adjusting the flame to a soft neutral setting, or one with a slight haze at the tip of the cone, pre-heat the casting and tack weld the parts into position when the correct temperature is reached.
4. Begin at the centre of the fracture completing one side and then the other. Welding speed should be increased towards the ends of the fracture.
5. Allow the repaired casting to cool slowly.
6. The flux residue must be removed on completion by washing in hot water or immersion (for approximately 10 minutes) in a dilute solution (5 - 10%) of nitric acid. The acid must be removed by washing with water after the flux has been removed.