CIGWELD

AN ESAB BRAND

TIG

COMWELD AL5356

PRODUCT DATA SHEET

HIGH QUALITY, ALUMINIUM - NOMINAL 5% MAGNESIUM ALLOY ROD

890 °C

GAS AND TIG WELDING CONSUMABLES

COMWELD AL5356

- Aluminium - 5% Magnesium Alloy Rod. Suitable for Gas Welding and Gas Tungsten Arc.
- (GTAW / TIG) Welding Applications. Embossed with AS / AWS Class '5356'.
- DNV Shipping Society Approvals.
- 2.5 kg Cardboard Pack / 15kg Carton.

CLASSIFICATIONS:

AS 1167.2:	**R5356**
AWS/ASME-SFA A5.10:	**R5356**
EN ISO 18273:	**S AL 5356 (ALMG5CR(A))**

APPROVALS:

DNV (With Welding Grade Argon)	**Grade ER5356**

WELD DEPOSIT PROPERTIES:

Typical Weld Metal Tensile Strength	**270 MPa**
Approximate Melting Point	**640°C**
Post Anodised Colour Tint	**White**

DESCRIPTION AND APPLICATIONS:

Comweld AL5356 is a high quality, Aluminium - nominal 5% Magnesium alloy rod suitable for the Gas or Gas Tungsten Arc (TIG) welding of a wide range of cast and wrought Aluminium alloys.

It produces intermediate deposit strength and good ductility and corrosion resistance for the Gas or Gas Tungsten Arc Welding (GTAW / TIG) of a wide range of 3XXX, 5XXX, 6XXX and 5XX Aluminium alloys. 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 GAS (FUSION) WELDING:

1. Thoroughly clean all areas to be welded either mechanically or chemically.
2. Adjust flame to a soft neutral setting, or one with a slight haze at the tip of the cone.
3. Apply Comweld Aluminium flux (Part Number: 321740) to filler rod and joint areas.
4. The edges of the joint should be heated to melting point and Comweld AL5356 filler rod added to the molten weld pool. Ensure the rod is melted by the molten weld pool and not the flame.
5. When welding in the downhand position, the blowpipe movement should be straight forward, with no sideways movement or weaving, to confine the heat in the weld area.
6. The blowpipe tip should be held at about 45° to the work piece and slightly decreased as the weld progresses. The filler rod is similarly inclined from 30°-40°.
7. The flux 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.

ROD ANALYSIS LIMITS:

Single values are maximum allowable, unless otherwise stated.

Si:	**0.25%**
Fe:	**0.40%**
Cu:	**0.10%**
Mn:	**0.05-0.20%**
Mg:	**4.5-5.5%**
Cr:	**0.05-0.20%**
Zn:	**0.10%**
Ti:	**0.05-0.20%**
Total Others:	**0.15**
Al	**Balance**

COMPARABLE CIGWELD PRODUCTS:

Autocraft AL5356 GMAW wire
AWS A5.10: ER5356

PACKAGING DATA:

ROD SIZE (MM)	PACK WEIGHT / TYPE	CARTON SIZE	APPROXIMATE RODS / KG	PACK PART NO.
1.6 x 914	2.5kg Pack	15kg	210	321640
2.4 x 914	2.5kg Pack	15kg	90	321641
3.2 x 914	2.5kg Pack	15kg	51	321642