

Aluminium & Aluminium alloys Filler Wire & Rods

SM ER 5356



 **SENOR[®]**
One Stop Solution for Welding & Brazing Consumables

SM ER5356

Filler Wire TIG & MIG

Aluminium-Magnesium Alloys

Classification :

AWS SFA 5.10/SFA 5.10M : ER5356
EN ISO 18273 : Al 5356 (AlMg5Cr(A))

Characteristics :

SM ER5356 wire typical applications include boats, ships, bicycles, trucks, pressure vessels, and automotive parts and equipment. This filler metal has one important limitation, which is its unsuitability at service temperatures exceeding 150°F (65°C). This is due to the formation of Al₂Mg at elevated temperatures at the grain boundaries, which makes the alloy prone to stress corrosion. This restricts its use when post-weld artificial aging. After anodizing, the colour typically appears white. ER5356 has a nominal composition (wt.-%) of 5 Mg, balance Al. This filler metal is a non-heat-treatable wire used to weld the 5XXX series base metals to themselves and other alloys. It has become the most commonly used of all filler alloys because of its compatibility with most base alloys, its good strength, and its good feed ability when used as a GMAW electrode wire.

Applications :

1. Can be used to weld the Base materials (ASTM) 3004, 5052, 5083, 5086, 5154, 5454, 5456, 6005, 6061 aluminium Alloys
2. SM ER5356 is a 5% magnesium, all position, non-heat treatable wire used to weld the 5XXX series alloys with some common welding applications
3. It is also used in the welding of aluminium, silicon, magnesium, aluminium, zinc and magnesium alloy and the repair welding of aluminium and magnesium alloy castings.
4. It can also be used such as boats, ships, bicycles, trucks, pressure vessels, and automotive parts and equipment.

Mechanical Properties – All Weld :

Tensile Strength Min – 240 MPa

Weld Metal Chemistry (wt %)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al	Each	Other
0.25 max	0.4 max	0.10 max	0.05 - 0.20	4.5 - 5.5	0.05 - 0.20	0.10 max	0.06 - 0.20	Rem.	0.05	0.15

Welding Current (DCEP for GMAW, AC for GTAW) :

2.40 mm	3.20 mm	4.00 mm
140 - 180	160 - 200	180 - 260

Availability :

Standard Size : 1.6, 2.0, 2.5, 3.0, 3.2, 4.0 & 5.0 mm dia in 500 / 1000 mm length
Packing : 500 mm in 2 kg. & 1000 mm in 5 kg. for TIG welding
Spools : 0.8, 0.9, 1.0, 1.2, 1.6 & 2.0 mm dia in 6.5 kg. spool for MIG welding

Note On Usage:

1. Clean the area to be welded
2. Maintaining a proper welding procedure - including pre-heat and inter pass temperatures - may be critical depending on the type and thickness of aluminium being welded.
3. 100% Argon (Ar) or Argon/Helium mixtures, typical: GMAW - 14-24 LPM, GTAW 10-14 LPM

Above are basic guidelines and will vary depending on joint design, number of passes and other factors.

⚠WARNING ⓘ

Protect yourself and others. Read and understand this warning. Do not remove this warning.

Fumes and Gases can be hazardous to your health

- Before use, read and understand the Material Safety Data Sheet (MSDS), the manufacturer's instructions, and your employer's safety practices.
- If MSDS is not enclosed. Obtain from your employer.
- Keep your head out of the fumes. See Section 5 of the MSDS for specific fume concentration limits.
- Use enough Ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone and the general area. If needed, use a proper respirator.
- No hazards exist before this product is used in arc welding.

Electric Shock can kill

- Always wear dry insulating gloves
- Insulate yourself from work and ground.
- Do not touch live electrical parts.

ARC Rays can injure eyes and burn skin

- Wear welding helmet with correct filter.
- Wear correct eye, ear, and body protection.

Welding can cause fire or explosion

- Do not weld near flammable material.
- Watch for fire, keep, extinguisher nearby.

Read American National Standards Z49.1, "Safety In Welding, Cutting and Allied Process." from American Welding Society.