

Aluminum Welding Wire and Rod



GMAW - Mig Welding Wire

Ventory's Aluminum MIG wire is available in various combinations of alloy and diameter on a wide variety of spools, or in bulk packaging, to meet the needs of our diverse and demanding, quality-critical aluminum fabrication customers. From raw material production to finished aluminum MIG wire, Ventory is committed to quality and consistency. All of our aluminum products are manufactured under a Quality Management System certified to ISO9001 requirements.

The surface finish of aluminum MIG wire is the greatest indicator of an electrode's performance and consistency during welding. A poor surface finish causes a variety of welding problems and interruptions such as poor feedability, premature liner wear, reduced contact tip life, porosity, dirty welds and burnbacks. These welding interruptions increase your manufacturing costs and reduce productivity. At Ventory, our focus is on manufacturing the smoothest and most uniform surface finish possible - one that is clean and free of contamination and hydrocarbons. The consistent feedability of our wire is accomplished through use of advanced wire drawing technology and a proprietary triple shaving process. All Ventory wire goes through a unique testing and control process consisting of three steps:

1. Surface Finish Testing
2. Feedability Testing, and
3. Weldability Testing.

An SEM (Scanning Electron Microscope) is used to inspect and control the wire's surface finish and cleanliness, ensuring the best surface finish possible and superior welding performance. The end result is the best X-Ray Quality, aluminum welding wire manufactured anywhere in the world.

Ventory utilizes additional manufacturing processes and controls for wire cast, helix and diameter tolerance that further ensure high quality, premium aluminum MIG wire. A consistent and tightly controlled diameter tolerance is another important variable that contributes to arc stability, uniformity, and quality aluminum weldments. To prevent diameter fluctuations that can have a profound, negative impact on welding conditions and amperage efficiency, we tightly control diameter tolerance on all of our aluminum welding wire to exacting standards to ensure consistent welding performance and results.

Alloy and diameter availability :

Description	0.030 (0.8mm)	0.035 (0.9mm)	0.040 (1.0mm)	0.047 (1.2mm)	0.062(1.6mm)
5356	✖	✖	✖	✖	✖
4043	✖	✖	✖	✖	✖
1100	Special Order			✖	✖
4047	Special Order				✖
5183	Special Order			✖	✖
5554	Special Order		✖	✖	✖
5556	Special Order			✖	✖

Packaging : Spool Weight : 1lb.(0.5kg) , 13lbs. (6kg.) , 20lbs. (9kg.)

Alloy 4043 Data Sheet

TYPICAL APPLICATIONS

- Welding Filter Wire
- Designed for Welding heat-treatable base alloys and more specifically the 6XXX alloys and most casting alloys
- Low sensitivity to weld cracking with the 6XXX series base alloys
- Lower melting point and more fluidity than the 5XXX series filler alloys
- Automotive components such as frame and drive shafts
- Bicycle frames

GENERAL INFORMATION

- AWS A5.10/A5.10M:1999 : ER4043
- ASME SFA-A5.10 : ER4043
- Canadian Welding Bureau (CWB) Approvals
- Non-Heat treatable
- Similar to AlMg5 (DIN)
- ISO designation: AISi5
- Principle alloying elements: Silicon
- Applicable specifications: ANSI/AWS A5.10 (ER & R), AMS 4190

TYPICAL PROPERTIES

Melting range: 1065 - 1170°F

Resistance to corrosion : B (GEN.) A (SCC)

Conductivity : 42% IACS (-O)

Anodize Color : Gray

Density : 0.097 lb./cu.in.

CHEMISTRY

SILICON	IRON	COPPER	MANGANESE	MAGNESIUM	CHROMIUM	ZINC	TITANIUM	BERYLLIUM	OTHERS	
									EACH	TOTAL
4.5-6.0	0.8	0.3	0.05	0.05	-	0.1	0.2	0.0003	0.05	0.15

ALLOY CHARACTERISTICS

ALLOY 4043 IS ONE OF THE OLDEST AND MOST WIDELY USED WELDING AND BRAZING ALLOYS. THEY CAN BE CLASSIFIED AS A GENERAL PURPOSE TYPE FILLER ALLOY. THE SILICON ADDITIONS RESULT IN IMPROVED FLUIDITY (WETTING ACTION) TO MAKE THE ALLOY A PREFERRED CHOICE BY WELDERS. THE ALLOY IS LESS SENSITIVE TO WELD CRACKING AND PRODUCES BRIGHTER, ALMOST SMUT FREE WELDS.

Shielding Gas

- 100% Argon , Argon/Helium Mixtures , Flow Rate : 30-50 CFH

Alloy 5356 Data Sheet

TYPICAL APPLICATIONS

- Welding Filler Wire
- For Automotive bumpers and supports
- Bicycle frames
- Formed truck panels
- Structural frames in the shipbuilding industry

GENERAL INFORMATION

- AWS A5.10/A5.10M:1999 : ER5356
- ASME SFA-A5.10 : ER5356
- Lloyd's Register : WB/I1-S
- CWB/CSA W48-06 : ER5356
- Non-Heat treatable
- Similar to AlMg5 (DIN)
- ISO designation: AlMg5Cr(A)
- Principle alloying elements: Magnesium, Manganese, Chromium, Titanium
- Applicable specifications: ANSI/AWS A5.10 (ER & R)

TYPICAL PROPERTIES

Melting range: 1060 - 1175 °F	Resistance to corrosion : A (GEN) C (SCC)
Conductivity : 29% IACS (-O)	Hardness (BHN) : 105 (-H18)
27% IACS (-H18)	Anodize Color : White
Density : 0.096 lb./cu.in.	

CHEMISTRY

SILICON	IRON	COPPER	MANGANESE	MAGNESIUM	CHROMIUM	ZINC	TITANIUM	BERYLLIUM	OTHERS	
									EACH	TOTAL
0.25	0.40	0.10	0.05-0.20	4.5-5.5	0.05-0.20	0.10	0.06-0.20	0.0003	0.05	0.15

ALLOY CHARACTERISTICS

A CHARACTERISTIC OF THE 5XXX SERIES OF ALLOYS IS THEIR SUSCEPTIBILITY TO STRESS CORROSION CRACKING WHEN THE WELD POOL CHEMISTRY IS GREATER THAN 3% MAGNESIUM AND THERE IS EXPOSURE TO PROLONGED TEMPERATURES IN EXCESS OF 150 °F.

Shielding Gas

- 100% Argon , Argon/Helium Mixtures , Flow Rate : 30-50 CFH