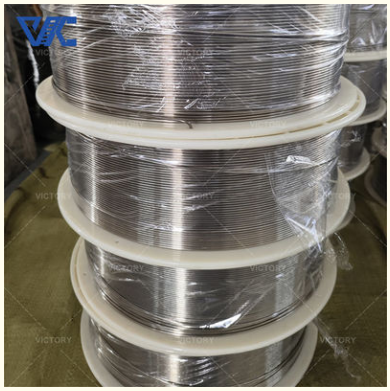
AWS A5.10 ER4043 Low Temperature Alloy Aluminum Welding Wire ER4043 TIG Welding Wire

Our Product Introduction

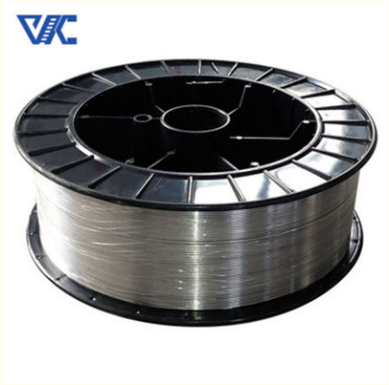
Basic Information

- Place of Origin: China
- Brand Name: Victory
- Certification: CE,ROHS,ISO 9001
- Model Number: ER4043
- Minimum Order Quantity: 5 Kg
- Price: Negotiable
- Packaging Details: Spool package with Carton box, Coil package with polybag
- Delivery Time: 5-21 days
- Payment Terms: L/C, T/T, Western Union, MoneyGram
- Supply Ability: 300 tons per month

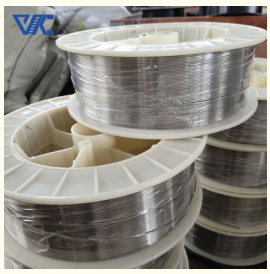


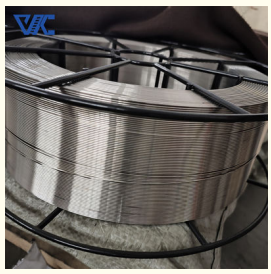
Product Specification

- Material: Aluminum Welding Wire
- Metal: Al+Si
- Melting Point: 573-625°C
- Diameter: 0.8mm/0.9mm/1.0mm/1.2mm
- Flux Content: 2.2%~3.0%
- Model Number: ER4043
- Feature: Excellent Welding Performance
- Ultimate Strength: 150-400MPa
- Highlight: **0Cr21Al6 Aluminum Alloy Welding Wire**, **Toasters Aluminum Alloy Welding Wire**, **Oxidized iron chromium aluminum alloy**



More Images





Product Description

Our Product Introduction

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Introduction:

ER4043 is an aluminum-silicon alloy welding wire that contains about 5% silicon. It has good fluidity and a low melting point, which allows it to reduce heat input during the welding process, thereby effectively reducing the risk of welding deformation and stress. Due to its excellent welding performance and low crack sensitivity, ER4043 is widely used in welding cast aluminum alloys, especially in industries such as shipbuilding, locomotives, chemicals, food processing, sports equipment, molds, furniture, containers and containers. In addition, the welding joint of ER4043 welding wire has strong corrosion resistance, but poor plasticity, so when selecting welding materials, it needs to be considered based on specific application requirements.

Parameter:

Composition: Si=4.5-6.0%; Fe≤0.8%; Al balance
Description: ER4043 is an aluminum-silicon alloy welding wire containing 5% silicon, with a melting point of 573-625°C, good fluidity, and strong resistance to hot cracking, but insufficient ductility. Due to the high silicon content, when used for welding high magnesium alloys, brittle Mg2Si is easily generated in the weld, which reduces the plasticity and corrosion resistance of the joint. In addition, the surface color of the weld is dark, and the color is different from the base material after anodization.
Purpose: Used as filling material for argon arc welding and gas welding of aluminum alloy workpieces and castings other than aluminum-magnesium alloys. Commonly used for welding of 600 series aluminum alloys such as 6061, 3000 series and 2000 series aluminum alloys and cast aluminum. Widely used in railway locomotives, chemical industry, food and other industries.

Chemical Composition of the Wire (%)

	Si	Fe	Cu	Mn	Mg	Zn	Ti	Al	Be
Stndard	4.5-6.0	≤0.80	≤0.30	≤0.05	≤0.05	≤0.10	≤0.20	Balance	≤0.0003
Typical	5.2	0.15	0.009	0.008	0.006	0.004	0.070	Balance	0.0001
Others	Single≤0.05 and Total≤0.15								

Mechanical Properties of Deposited Metal (AW, typical)

Tensile Strength Rm(MPa)	Yield Strength Rp0.2 (MPa)	Elongation A4(%)	Shield Gas
150	110	14	100%Ar Purity≥99.99%

Physical Properties of Deposited Metal

Melting Temperature (℃)	Density (g/mm3)
574-632	2.68

Notice: 1) Keeping the package of the wire in good condition before welding.
2) Both the surfaces to be welded of weldment and wire must be cleaned away impurities of oil contamination, oxide coating, moisture and so on.
3) To guarantee steady welding quality, TIG wire for the aluminium welding should be the first choice. If MIG is necessary diameter 1.6mm or more are recommended so that wire feeding could be processed smoothly.
4) To obtain good appearance of weld it is necessary to preheat the base metal to 100℃-200℃ before welding if its thickness is 10mm or more.
5) It is better to put a subplate under the weld zone to prop the melted metal so that to ensure complete penetration the weldment.
6) According to welding position and the thickness of base metal different shield gas should be chosen, such as 100%Ar, 75%Ar+25%He, 50%Ar+50%He, etc.
7) The welding conditions mentioned above for reference only and it is better to do a welding procedure qualification according to project before put it into formal welding.

Feature:

Low melting point: Due to its approximately 5% silicon content, ER4043 welding wire has a lower melting point, which helps reduce heat input during welding, thereby reducing the risk of deformation and stress in the heat affected zone (HAZ).
Good fluidity: The low melting point also makes ER4043 welding wire have good fluidity during the welding process, helping to obtain uniform and beautiful welds.
Corrosion resistance: The silicon element contained in ER4043 welding wire forms eutectic silicon in the weld metal, which not only enhances the connection function of the welded joint, but also improves the corrosion resistance of the welded joint.
Reduce crack susceptibility: The low melting point eutectic and eutectic in the weld can fill the role and produce a "self-healing" effect, reducing crack susceptibility.

Application:

Welding aluminum alloys: ER4043 welding wire is particularly suitable for welding cast aluminum alloys, especially for the welding of 5xxx and 6xxx series aluminum alloys.
Welding joints: The joints obtained by welding with ER4043 welding wire have poor plasticity and are suitable for application scenarios that have specific requirements for weldability.
Improved weldability: The Si element in ER4043 welding wire is beneficial to improving the weldability of 7075 aluminum alloy, although it may lead to a reduction in the plasticity of the welded joint.

Q&A:

Q: What are the advantages of using ER4043 welding wire for welding?
A: When welding with ER4043 welding wire, due to its low melting point and good fluidity, it can reduce the risk of welding cracks and improve the corrosion resistance of the weld.

Q: What are the performance characteristics of ER4043 welding wire in welding joints?
A: Because the joint welded by ER4043 wire contains eutectic silicon, although it has a strong connection effect, it has poor plasticity and uneven grain structure, which may affect the overall performance of the welded joint.

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