

Gas Shielded Welding Wire



GJ-ER70S-2

Copper-Coated Solid Wire

(Carbon steel with Ti-Zr-Al deoxidation)

- ▶ AWS A5.18 ER70S-2
- ▶ EN ISO 14341-A-G3Si1

Product description

GJ-ER70S-2 is a carbon steel solid wire containing titanium, zirconium, and aluminum deoxidizers, strictly complying with AWS A5.18 ER70S-2. The multiple deoxidation system makes it ideal for welding on rusty, oily, or contaminated surfaces where porosity resistance is critical.

Key Advantages

- ▶ Superior Porosity Resistance: Ti-Zr-Al combined deoxidizers effectively combat porosity on contaminated or unprepared surfaces.
- ▶ Stable Arc Performance: Smooth arc characteristics with minimal spatter for both CO₂ and mixed gas shielding.
- ▶ All-Position Capability: Excellent weld pool control for all-position welding with good bead appearance.

Application Guide

- ▶ With 100% CO₂: For general structural fabrication, repair welding, and field erection on partially prepared surfaces.
- ▶ With Ar/CO₂ (80/20) Mixed Gas: For high-quality welds on thin to medium gauge steel with reduced spatter.
- ▶ For carbon steels: Including Q235, Q345, and equivalent grades in construction, automotive, and machinery manufacturing.

Gas Shielded Welding Wire

● Main constituents

Elements	C (Carbon)	Mn (Manganese)	Si (Silicon)	S (Sulfur)	P (Phosphorus)	Cu (Copper)
AWS Requirement	0.06 - 0.15	0.90 - 1.40	0.40 - 0.70	≤0.035	≤0.025	≤0.50
Typical Actual Value	0.08	1.10	0.55	0.012	0.012	0.18

● Typical Mechanical Properties of Deposited Metal

The mechanical properties of ER70S-2 are tested as all-weld metal with 100% CO₂ shielding gas (DC+ polarity).

Test Item	Yield Strength	Tensile Strength	Elongation	Impact Value@ -30°C
AWS A5.18 Requirement	≥400 MPa	≥490 MPa	≥22%	≥27 J
Typical Actual Result	450 MPa	550 MPa	26%	85 J

● Reference Welding Parameters

Wire Diameter	0.8 mm (0.030")	1.0 mm (0.040")	1.2 mm (0.045")	1.6 mm (1/16")
Amperage	50 - 150	60 - 220	80 - 350	120 - 450
Voltage	16 - 22	18 - 26	20 - 30	22 - 34