

Submerged Arc Welding Flux



GJ-EA2

Copper-Coated Solid Wire

(Mo-alloyed low-alloy steel)

- ▶ AWS A5.23 EA2
- ▶ EN ISO 14171-A-S2Mo

Product description

GJ-EA2 is a 0.5% molybdenum alloyed low-alloy solid wire strictly complying with AWS A5.23 EA2. When combined with appropriate fluxes, it delivers excellent high-temperature strength and creep resistance for pressure vessels and boiler applications.

Key Advantages

- ▶ Elevated Temperature Strength: 0.5% Mo addition provides excellent creep resistance for sustained high-temperature service.
- ▶ Superior Toughness: Controlled ultra-low S/P content ensures excellent impact toughness even at sub-zero temperatures.
- ▶ Versatile Flux Compatibility: Works effectively with both basic and neutral fluxes for a wide range of low-alloy steel grades.

Application Guide

- ▶ With GJ-101G (Basic Flux): For pressure vessels, boiler tubes, and high-temperature piping in power plant applications.
- ▶ With GJ-301 (Neutral Flux): For low-alloy high-strength steel structures such as Q420 and equivalent strength grades.
- ▶ For pipe mill and offshore applications: Excellent two-run technique performance for longitudinal and spiral pipe welding.

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● Main constituents

Elements	C (Carbon)	Mn (Manganese)	Si (Silicon)	S (Sulfur)	P (Phosphorus)	Mo (Molybdenum)	Cu (Copper)
AWS Requirement	0.05 - 0.17	0.95 - 1.35	≤0.20	≤0.025	≤0.025	0.45 - 0.65	≤0.35
Typical Actual Value	0.09	1.12	0.12	0.005	0.009	0.53	0.20

● Typical Mechanical Properties of Deposited Metal

The mechanical properties of EA2 must be evaluated in combination with a specific flux. The following data is based on testing combined with an AWS F8A0 basic agglomerated flux (e.g., SJ101).

Test Item	Yield Strength	Tensile Strength	Elongation	Impact Value@ -20°C
AWS F8A1 Requirement	≥470 MPa	550 - 700 MPa	≥20%	≥27 J
Typical Actual Result	537 MPa	616 MPa	27%	112 J

● Reference Welding Parameters

Wire Diameter	1.6 mm (1/16")	2.5 mm(3/32")	3.2 mm (1/8")	4.0 mm (5/32")	5.0 mm (3/16")
Amperage	250 - 420	350 - 500	400 - 550	470 - 600	550 - 650
Voltage	26 - 30	27 - 30	28 - 31	28 - 32	30 - 34