

Alloy 82

NiWire Alloy 82 is used for GTAW, GMAW and Submerged Arc Welding of base materials such as UNS N06600.

Specification

AWS A5.14 Class ERNiCr-3
ASME SFA5.14 Class ERNiCr-3

Chemical Composition

Composition limits. 0.10 max C; 2.5-3.5 max Mn; 3.0 max Fe; 0.03 max P; 0.015 max S; 0.50 max Si; 0.50 max Cu; 67.0 min Ni; 0.75 max Ti; 18.0-22.0 Cr; 2.0-3.0 Nb+Ta

Applications

Typical uses: NiWire Alloy 82 is an excellent choice for joining dissimilar alloys, ie nickel to stainless, stainless to carbon steels, Inconel® 600,601,690, Incoloy® 800, 800HT; other Inconel® and Incoloy® alloys to carbon steel and stainless steel. It can also be used to join nickel and Monel® alloys, and Monel® alloys to carbon steel. NiWire Alloy 82 maintains strength and resists corrosion and oxidation up to 900°F. It is an excellent alternative to filler metal 330 stainless in joining applications.

Mechanical Properties

Tensile properties of Alloy 82:
Tensile Strength: 86,000 PSI 590 MPa
Yield Strength: 52,000 PSI 360 MPa
Elongation: 38%

Standard Packaging

TIG 11 lbs (5kgs) per tube
MIG 33 lbs (15kgs) per spool
Sub-Arc 60 lbs (27kgs) per coil

Welding Parameters

PROCESS	SIZE	VOLTS	AMPS	SPEED OF WELDING/GAS FLOW	SHIELDING GAS/FLUX
GTAW	0.9mm	12-15	60-90	30-40 CFH	100% Argon
	1.2mm	13-16	80-110	30-40 CFH	100% Argon
	1.6mm	14-18	90-130	30-40 CFH	100% Argon
	2.4mm	15-20	120-175	30-40 CFH	100% Argon
	3.2mm	15-20	150-220	30-40 CFH	100% Argon
GMAW	0.9mm	29-33	160-180	30-50 CFH	75% Argon+25%
	1.2mm	29-33	180-220	30-50 CFH	Helium or 50%
	1.6mm	29-33	210-250	30-50 CFH	Argon+50% Helium
SAW	1.6mm	26-29	250-320	20-30 IPM	Suitable Flux
	2.4mm	28-31	300-350	20-30 IPM	Suitable Flux

*Monel, Inconel and Incoloy are trademark of Special Metals.