

# Alloy 60

UNS N04060

**NiWire Alloy 60** is a nickel-copper bare welding wire used for GTAW, GMAW and SAW welding of alloys ASTM B127, B163, B164, and B165 having UNS Number N04400, and Alloy 400, R-405, and K-500, and copper alloys.

## Specification

AWS A5.14-8 Class ERNiCu-7  
ASME SFA5.14 Class ERNiCu-7

## Chemical Composition

*Composition limits.* 62.0 to 69.0 Ni; 0.15 max C; 4.0 max Mn; 2.5 max Fe; 0.015 max S; 1.25 max Si; 1.25 max Al; 1.5 to 3.0 Ti; 0.02 max P; bal Cu

## Applications

*Typical uses:* This filler metal can be used for GMAW overlay on steel after a first layer with Alloy 61 (nickel 208). Dissimilar joining applications include nickel-copper alloys, carbon steel, low alloy steel to Nickel 200 and copper-nickel alloys. ERNiCu-7 is widely used in marine applications because of its good resistance to the corrosive effects of seawater and brackish waters.

## Mechanical Properties

Tensile properties of Alloy 60:  
Tensile Strength: 76,500 PSI 530 MPa  
Yield Strength: 52,500 PSI 360 MPa  
Elongation: 34%

## 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	2.4mm	32-35	240-290	10-20 IPM	Suitable Flux
	3.2mm	32-35	300-350	10-20 IPM	Suitable Flux
	4.0mm	32-35	400-550	10-20 IPM	Suitable Flux