

# Alloy 825

UNS N08065

**NiWire Alloy 825** is a filler metal used for welding the nickel-iron-chromium-molybdenum-copper alloy (ASTM B 423 having UNS number N08825) to itself using the GTAW and GMAW processes.

## Specification

AWS A5.14 Class ERNiFeCr-1  
ASME SFA5.14 Class ERNiFeCr-1

## Chemical Composition

*Composition limits.* 0.05 max C; 1.0 max Mn; 22.0 min Fe; 0.03 max P; 0.03 max S; 0.50 max Si; 1.5-3.0 Cu; 38.0-46.0 Ni; 0.20 max Al; 0.6-1.2 Ti; 19.5-23.5 Cr; 2.5-3.5 Mo

## Applications

*Typical uses:* ERNiFeCr-1 is used for TIG, MIG and SAW welding of Incoloy® 825 and other nickel-chromium-molybdenum-copper alloys. It can be also used to overlay cladding where similar chemical composition is required.

## Mechanical Properties

Tensile properties of Alloy 825:  
Tensile Strength: 610 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	26-29	150-190	30-50 CFH	75% Argon+25% Helium
	1.2mm	28-32	180-220	30-50 CFH	
	1.6mm	29-33	200-250	30-50 CFH	
SAW	2.4mm	29-32	300-350	20-30 IPM	Suitable Flux

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