



Techalloy 413

Description

Techalloy 413 is used for TIG, MIG and oxy-fuel welding of 70/30, 80/20 and 90/10 copper-nickel alloys. This filler metal can be used for MIG overlay on steel after a first layer with Nickel 208 (Filler Metal 61). Dissimilar welding applications include joining copper-nickel alloys to Nickel 200 or nickel-copper alloys.

Specifications & Approvals:

AWS A5.7 ERCuNi UNS C71581 CWB

Typical Chemical Composition

C	Mn	Si	Fe	Cr	Mo	Ni	Nb	W	S	P	Al	Ti	Cu
	.75	.10	.55			31.0				.006		.35	BAL

Typical Mechanical Properties

Tensile Strength	53,000PSI	360 MPA
Yield Strength	21,000 PSI	140 MPA
Elongation	32%	

Welding Parameters

Process	Diameter	Voltage	Amperage	Gas
TIG	.035" (0.9mm)	12-15	60-90	100% Argon
	.045" (1.2mm)	13-16	80-110	100% Argon
	1/16" (1.6mm)	14-18	90-130	100% Argon
	3/32" (2.4mm)	15-20	120-175	100% Argon
	1/8" (3.2mm)	15-20	150-220	100% Argon
MIG	.035" (0.9mm)	26-29	150-190	75% Argon + 25% Helium
	.045" (1.2mm)	28-32	180-220	75% Argon + 25% Helium
	1/16" (1.6mm)	29-33	200-250	75% Argon + 25% Helium
SAW	3/32" (2.4mm)	28-30	275-350	Suitable Flux may be used
	1/8" (3.2mm)	29-32	350-450	Suitable Flux may be used
	5/32" (4.0mm)	30-33	400-550	Suitable Flux may be used

Standard Packages:

MIG Wire– 33# wire basket	TIG Wire– 10# tube/30# Master Carton	SAW– 60# Coil
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