



# Techalloy 718

## Description

Techalloy 718 is used for TIG welding alloys 718, 706 and X-750. It is mainly used for welding high strength aircraft components and liquid rocket components involving cryogenic temperatures. High heat input processes such as MIG welding often result in micro fissuring. This alloy can be age hardened to higher strengths.

## Specifications & Approvals:

AWS A5.14 ERNiFeCr-2      UNS N07718      CWB

## Typical Chemical Composition

C	Mn	Si	Fe	Cr	Mo	Ni	Nb	W	S	P	Al	Ti	Cu
.04	.25	.20	17.55	19.0	3.10	53.3	5.05		.004	.001	.40	.90	

## Typical Mechanical Properties

Tensile Strength	125,000 PSI	860 MPA
Yield Strength	91,000 PSI	630 MPA
Elongation	27%	

## 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
---------------------------	--------------------------------------	---------------