



Techalloy 55

Description

Techalloy 55 is used for TIG and MIG welding of cast iron. This filler metal is extensively employed to overlay cast iron rolls. It is also used to repair castings. The weld metal of Techalloy 55 is harder than that of Techalloy 99. However, the machining can be accomplished by using carbide tipped tools. A pre-heat and inter-pass temperature of 350°F (175°C) minimum is recommended during welding, without which the weld and heat affected zones could develop cracks.

Typical Chemical Composition

C	Mn	Si	Fe	Cr	Mo	Ni	Nb	W	S	P	Al	Ti	Cu
.05	.25	.15	43.6			55.9							

Typical Mechanical Properties

Tensile Strength	89,500 PSI	620 MPA
Yield Strength	62,000 PSI	430 MPA
Elongation	35%	

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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