



# Techalloy 625

## Description

Techalloy 625 (Low Iron) is used for TIG, MIG and SAW welding of nickel-chromium-molybdenum alloys. Techalloy 625HWT is a product with the same chemical and mechanical properties (Weld Metal) but with slightly different wire characteristics suited to the hot wire TIG process. This filler metal may be used for cladding and welding dissimilar base metals such as Ni-Cr-Mo alloys to stainless and carbon steels. The Ni-Cr-Mo alloy system provides excellent resistance to oxidizing and reducing environments. The high molybdenum content provides good stress, pitting and crevice corrosion resistance.

## Specifications & Approvals:

AWS A5.14 ERNiCRMo-3

UNS N06625

CWB

## Typical Chemical Composition

C	Mn	Si	Fe	Cr	Mo	Ni	Nb	W	S	P	Al	Ti	Cu
.009	.05	.12	.4	21.9	8.65	BAL	3.7		.002	.006			

## Typical Mechanical Properties

Tensile Strength	114,500 PSI	790 MPA
Yield Strength	85,000 PSI	590 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
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