

TECHALLOY 410NiMo

I. **DESCRIPTION:** Techalloy 410 NiMo is used primarily to weld cast and wrought material of similar chemical composition. Preheating and interpass temperature of not less than 300°F are required. Post-weld heat treatment should not exceed 1150°F, as higher temperatures may result in hardening.

NOTE: Mechanical properties listed below reflect utilization of post-weld heat treatment between 1100°F and 1150°F for one hour.

II. **APPROVALS:** Manufactured under Quality System approved by ASME, ISO9001. Meets AWS 5.9 Class ER410 NiMo. Approved by Canadian Welding Bureau.

<u>CHEMICAL COMPOSITION</u>		<u>MECHANICAL PROPERTIES</u>	
Carbon	.02	Tensile Strength	
Manganese	.45	118,500 PSI	820 MPA
Silicon	.4	Yield Strength	
Chromium	11.8	92,000 PSI	630 MPA
Nickel	4.50	Elongation	
Sulfur	.009	20%	
Phosphorus	.012		
Nitrogen	.03		

IV. **WELDING PARAMETERS**

- a) **MIG WELDING:** Direct current; Electrode +Ve
Shielding Gas 98/99% Argon + 2/1% Oxygen
97% Argon + 3% CO₂
Gas Flow 30 to 50CFH
Voltage 29 to 33
Amperage 160/180 for .035" (0.9mm)
180/220 for .045" (1.14mm)
210/250 for .062" (1.6mm)
- b) **T.I.G. WELDING:** Direct Current; Electrode -Ve
Shielding Gas 100% Argon
Gas Flow 30 to 40 CFH
- c) **SUB-ARC WELDING:** Direct Current; Electrode + Ve
Voltage 29 to 32
Amperage 300 to 350 for 3/32" (2.5mm)
400 to 550 for 1/8" (3.14mm)
500 to 650 for 5/32" (4.0mm)
Speed of Welding 20 to 30 IPM (500 to 750mm)/min.

V. **STANDARD PACKAGES:**

MIG Wire -30# spools; **TIG Wire** -10# Tubes; **SAW**-60# coils