

TECHALLOY 430

I. **DESCRIPTION:** Techalloy 430 is a ferritic stainless steel which offers good ductility in heat-treated condition. In addition to the applications of welding similar alloys, it is also used for overlays and thermal spraying. Preheating of the joint to a minimum of 300°F is recommended before welding.

NOTE: Mechanical properties listed below reflect utilization of a postweld heat treatment between 1400°F and 1450°F for two hours.

II. **APPROVALS:** Manufactured under Quality System approved by ASME, ISO9001. Meets AWS 5.9 Class ER430.

III. **CHEMICAL COMPOSITION**

Carbon	.07
Manganese	.44
Silicon	.36
Chromium	16.5
Molybdenum	.1
Sulfur	.01
Phosphorus	.014

MECHANICAL PROPERTIES

Tensile Strength	
77,500 PSI	530 MPA
Yield Strength	
59,000 PSI	410 MPA
Elongation	
25%	

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