

# Techalloy 110S-1

## DESCRIPTION

Techalloy 110S-1 is intended for applications that require high strength along with low temperature ductility. Applications include welding of HY-100 and other high strength low alloy steels. A minimum preheat and interpass temperature of 300°F is required.

## SPECIFICATIONS & APPROVALS

### Quality Systems :

ISO Q9001-2000

### Specifications :

AWS/ASME SFA: A5.28 ER100S-1

UNS: N/A

European Standard: N/A

### Approvals

## TYPICAL CHEMICAL COMPOSITON

C	Mn	Si	Fe	Cr	Ni	Cu	Mo	S / P	Al
0.07	1.55	0.45	Bal.	0.30	2.30	0.20	0.45	.01 / .01	0.005

## TYPICAL MECHANICAL PROPERTIES of WELD METAL

Tensile Strength	Yield Strength	Elongation 4d	Impact @ -60°F/ -51°C
114.5 Ksi	98.0 Ksi	18%	65 ft-lb
790 Mpa	680 Mpa		87 Joules

NOTE: Mechanical properties shown above are dependent on specific preheat, interpass and postweld heat treatment temperatures.

## WELDING PARAMETERS

Process	Electrical	Voltage	Amperage	Shielding Gas	Gas Flow, CFH	Welding Speed
<u>GMAW</u> <i>Spray Transfer</i>	DCEP	28 - 32	.035" (0.90mm) 165-200	98 Ar - 2O <sub>2</sub>	30 - 50	30-50 IPM
		30 - 34	.045" (1.14mm) 180-220			
			.062" (1.60mm) 230-260			
<i>Short Circuit</i>	DCEP	22 -25	.035" (0.90mm) 100 - 140	75 Ar - 25CO <sub>2</sub>		
		23 - 26	.045" (1.14mm) 120 -150			
<i>Globular</i>				100% CO <sub>2</sub>		
<u>GTAW</u>	DCEN	20	.093" (3.20mm) 125-175	100% Ar	30 - 40	
			.125" (3.20mm) 175-250			
<u>SAW</u>	DCEP	28	3/32" (2.50mm) 400	N/A	N/A	110 IPM
			1/8" (3.14mm) 450			80 IMP
			5/32" (4.00mm) 500			65 IPM