

Techalloy 120S-1

DESCRIPTION

Techalloy 120S-1 is a low alloy steel welding wire used to weld high strength low alloy steels such as HY-100. The weld metal provides good low temperature toughness to -60°F.

A preheat and interpass temperature of 300°F minimum is required.

SPECIFICATIONS & APPROVALS

Quality Systems :

ISO Q9001-2000

Specifications :

AWS/ASME SFA: A5.28 ER120S-1

UNS: N/A

European Standard: N/A

Approvals

TYPICAL CHEMICAL COMPOSITION

C	Mn	Si	Fe	Cr	Ni	Cu	Mo	S / P	Al
0.08	1.55	0.45	Bal.	0.35	2.55	0.20	0.50	.01 / .01	0.005

TYPICAL MECHANICAL PROPERTIES of WELD METAL

Tensile Strength	Yield Strength	Elongation 4d	Impact @ -60°F/ -51°C
124.0 Ksi	106.5 Ksi	15%	60 ft-lb
860 Mpa	730 Mpa		80 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 ₂	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 ₂		
		23 - 26	.045" (1.14mm) 120 -150			
<i>Globular</i>				100% CO ₂		
<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