Techalloy 90S-B9

DESCRIPTION

Techalloy 90S-B9 is a 9% chromium, 1.0% molybdenum with microalloying elements vanadium and columbium. This wire is designed to provide high strength, toughness and fatigue in addition to corrosion and oxidation resistance at elevated temperatures.
This modified deposit chemistry provides higher creep resistance at high tempertures than standard 9 chrome materials.

SPECIFICATIONS & APPROVALS

Quality Systems :
ISO Q9001-2000

Specifications :
AWS/ASME SFA: A5.23 EB-9; A5.28 ER90S-B9
UNS: N/A
European Standard: N/A

Approvals

TYPICAL CHEMICAL COMPOSITON

C	Mn	Si	Fe	Cr	Ni	Cu	Mo	Cb	S / P	V
0.09	0.95	0.25	Bal.	9.10	0.55	0.10	1.00		.01 / .01	0.200

TYPICAL MECHANICAL PROPERTIES of WELD METAL

Tensile Strength	Yield Strength	Elongation 4d
96.0 Ksi	81.5 Ksi	25%
660 Mpa	560 Mpa	

NOTE: Mechanical properties shown above were obtained with a postweld heat treatment of 1400°F for one hour.

WELDING PARAMETERS

Process	Electrical	Voltage	Amperage	Shielding Gas	Gas Flow, CFH	Welding Speed
GMAW *Spray Transfer*	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			
Short Circuit	DCEP	22 -25	.035" (0.90mm) 100 - 140	75 Ar - $25CO_2$		
		23 - 26	.045" (1.14mm) 120 -150			
Globular				100% CO2		
GTAW	DCEN	20	.093" (3.20mm) 125-175	100%Ar	30 - 40	
			.125" (3.20mm) 175-250			
SAW	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