

Techalloy 80S-B2

DESCRIPTION

Techalloy 80S-B2 is used for the welding of 1-1/4% chromium / 1/2% Mo steels utilized for high temperature service conditions. This is an air hardening material that requires a minimum preheat and interpass temperature of 300°F. Subarc wire can be also be termed 515 .

SPECIFICATIONS & APPROVALS

Quality Systems :

ISO Q9001-2000

Specifications :

AWS/ASME SFA: A5.23 EB-2; A5.28 ER80S-B2

UNS: N/A

European Standard: N/A

Approvals

TYPICAL CHEMICAL COMPOSITON

C	Mn	Si	Fe	Cr	Ni	Cu	Mo	S / P	Al
0.09	0.55	0.45	Bal.	1.35	0.10	0.10	0.55	.01 / .01	0.005

TYPICAL MECHANICAL PROPERTIES of WELD METAL

Tensile Strength	Yield Strength	Elongation 4d	Impact @ 32°F / -0°C
85.0 Ksi	71.5 Ksi	21%	60 ft-lb
590 Mpa	490 Mpa		80 Joules

NOTE: Mechanical properties shown above were obtained with a postweld heat treatment of 1150°F for one hour.

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