SM-312

29%Cr-9%Ni STS, joining of dissimilar-metal

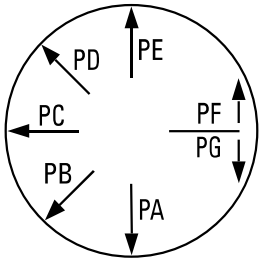
Conformances

AWS A5.9 / ASME SFA5.9 ER312

JIS Z3321 YS312

EN ISO 14343-A G 25 20

Welding Position



Applications

- Welding of Dissimilar-metal STS to ferritic steel or special steel

Current

DC +

Shielding Gas

Ar / Ar + O_2

Features

- Excellent corrosion resistance
- Excellent resistance to heat
- Excellent Arc stabillity and bead wetting

Diameter / Packaging

Diameter	Spool			Ball Pac		
mm (in)	12.5kg (28lbs)	15kg (33 lbs)	20kg (44lbs)	150kg (330lbs)	200kg (440lbs)	250kg (551lbs)
0.8 (0.033)	√					
0.9 (0.035)	√					
1.0 (0.040)	√					
1.2 (0.045)	√					
1.4 (0.052)						
1.6 (1/16)	√					

Typical Chemical Composition of the Wire(%)

C	Si	Mn	Cr	Ni
0.10	0.38	1.68	30.0	8.8

Typical Mechanical Properties of All-Weld Metal

TS MPa(lbs/in^2)	EL (%)
720 (104,400)	32

Typical Welding Parameters

Diameter, Polarity Shielding Gas	CTWD mm(in)	Wire Feed Speed m/min (in/min)	Amp. (A)	Volt. (V)	Deposition Rate kg/hr (lb/hr)
1.0mm (0.040 in), DC +					
100% Ar Gas	15~20 (0.59~0.78)	6.0 (236)	140	24	2.1 (4.6)
		7.1 (280)	160	24	2.5 (5.5)
		9.2 (362)	190	24	3.2 (7.1)
Mixed Gas (Ar + 2% O_2)	15~20 (0.59~0.78)	5.2 (204)	160	26	1.8 (4.0)
		7.0 (276)	190	26	2.4 (5.3)
		8.3 (327)	220	26	2.9 (6.4)
1.2mm (0.045 in), DC +					
100% Ar Gas	15~20 (0.59~0.78)	9.2 (362)	190	27	4.6 (10.1)
		11.9 (469)	220	27	6.0 (13.2)
		15.5 (610)	260	27	7.8 (17.2)
Mixed Gas (Ar + 2% O_2)	15~20 (0.59~0.78)	7.7 (303)	200	28	3.9 (8.6)
		8.6 (339)	230	28	4.3 (9.5)
		10.1 (398)	260	28	5.1 (11.2)