SM-70G

Mild Steel & 490 Mpa high tensile steels

Conformances

AWS	A5.18 / ASME SFA5.18 ER70S-G
JIS	Z3312 YGW11
EN	ISO 14341-A G3Si1
KR	3SG, 3YSG, 3MG, 3YMG (C1)
ABS	3SA,3YSA
LR	3YSH15
BV	SA3,3YM
DNV	IIIYMS
GL	3YS
NK	KSW53G,KAW53MG(C) KSW3G,KSW53G(M2) KAW3MG,KAW53MG(M2)

Applications

- Structural fabrication
- Shipbuilding
- Transportation equipment
- Heavy equipment
- Bridge construction

Features

- Good performance with high current
- High deposition rate
- Deep penetration

Welding Position

1G (PA) 2F (PB) 3G (PF·PG) 4G (PE)

Current

DC +

Shielding Gas

100% CO_2

Ar + 20~25% CO_2

Diameter / Packaging

Diameter	Spool			Pac		
mm (in)	5kg (11lbs)	15kg (33lbs)	20kg (44lbs)	250kg (551lbs)	300kg (661lbs)	350kg (771lbs)
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	P	S	Ti
0.05	0.82	1.5	0.011	0.010	0.18

Typical Mechanical Properties of All-Weld Metal

	YS Mpa(lbs/in²)	TS Mpa(lbs/in²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft·lbs)
As welded with 100% CO_2	518 (75,000)	591 (86,000)	30.4	-29 (-20)	92 (68)
As welded with 80% Ar + CO_2	534 (77,400)	600 (87,000)	28.6	-29 (-20)	102 (76)
As welded with 90% Ar + CO_2	554 (80,300)	630 (91,400)	27.4	-29 (-20)	95 (70)

Typical Operating Procedures

Diameter, Polarity Shielding Gas	CTWD mm(in)	Wire Feed Speed m/min (in/min)	Voltage (volts)	Approx. Current (amps)	Melt-Off Rate kg/hr (lb/hr)
1.2mm (0.045in), DC +					
100% CO_2 Gas	20 (3/4)	14.5 (570)	31	280	7.3 (16.1)
		17.0 (670)	34	320	8.6 (19.0)
		21.0 (830)	37	350	10.6 (23.3)
Mixed Gas (Ar + CO_2)	20 (3/4)	11.2 (440)	30	280	5.6 (12.3)
		12.8 (503)	33	320	6.5 (14.3)
		14.0 (551)	36	350	7.1 (15.7)
1.4mm (0.052in), DC +					
100% CO_2 Gas	20 (3/4)	12.0 (472)	34	300	8.3 (18.3)
		14.6 (575)	36	340	10.1 (22.2)
		15.8 (622)	39	360	11.0 (24.2)
Mixed Gas (Ar + CO_2)	20 (3/4)	8.7 (343)	32	300	6.0 (13.2)
		9.5 (374)	34	340	6.6 (14.5)
		10.0 (394)	35	360	6.9 (15.3)
1.6mm (1/16in), DC +					
100% CO_2 Gas	20 (3/4)	9.4 (370)	37	340	8.5 (18.7)
		11.7 (460)	43	390	10.6 (23.3)
		12.2 (480)	44	400	11.1 (24.4)
Mixed Gas (Ar + CO_2)	20 (3/4)	6.6 (260)	34	340	6.0 (13.2)
		8.2 (322)	38	390	7.4 (16.3)
		8.6 (339)	38	400	7.8 (17.2)