

SM-80G

High tensile steels

Conformances

AWS A5.28/ ASME SFA5.28 ER80S-G

JIS Z3312 G 59J A 1 U C 3M1T

EN ISO 14341-B G S3M1T

ABS AWS A5.28 ER80S-G (-20°C ≥47J)

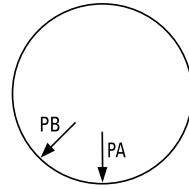
Applications

- General fabrication
- Pressure vessels
- Machinery

Features

- High deposition rate
- Special alloying elements added

Welding Position



Current

DC +

Shielding Gas

100% CO₂

Ar + CO₂

Diameter / Packaging

Diameter	Spool			Ball Pac		
	5kg (11lbs)	15kg (33lbs)	20kg (44lbs)	250kg (551lbs)	300kg (661lbs)	350kg (771lbs)
mm (in)						
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	Mo	Ti
0.06	0.81	1.85	0.013	0.007	0.27	0.15

Typical Mechanical Properties of All-Weld Metal

	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)
As welded with 100% CO ₂	571 (77,100)	645 (93,500)	26.6	-20 (-4)	117 (86)
As welded with 80% Ar + CO ₂	651 (94,400)	715 (103,600)	25.6	-20 (-4)	72 (53)
As welded with 90% Ar + CO ₂	668 (96,800)	732 (106,140)	22.8	-20 (-4)	65 (48)

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)
1.2mm (0.045in), DC +					
100% CO ₂ Gas	20 (3/4)	17.0 (670)	320	34	8.6 (19.0)
		21.0 (830)	350	37	10.6 (23.3)
		31.0 (1220)	400	40	15.6 (34.3)
Mixed Gas (80%Ar + CO ₂)	20 (3/4)	12.8 (503)	320	33	6.5 (14.3)
		14.0 (551)	350	36	7.1 (15.7)
		16.0 (630)	400	39	8.1 (17.8)

SMAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX