

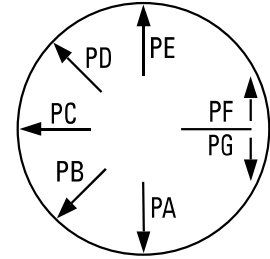
SM-80D2

High tensile steels

Conformances

AWS A5.28/ ASME SFA5.28 ER80S-D2

Welding Position



Current

DC +

Shielding Gas

100% CO₂

Ar + 15~25% CO₂

Applications

- High tensile welded structure
- Building and Pressure vessels
- Construction Machinery

Features

- High deposition rate
- Contains 0.50% Molybdenum
- Stable arc with high current

Diameter / Packaging

Diameter mm (in)	Spool			Ball Pac		
	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	Mo
0.09	0.62	1.85	0.015	0.008	0.50

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	620 (89,923)	697 (101,091)	23.6	-30 (-22)	50 (37)
As welded with 80% Ar + CO ₂	650 (94,275)	710 (102,977)	26.0	-30 (-22)	100 (74)

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)	14.5 (570)	280	31	7.3 (16.1)
		17.0 (670)	320	34	8.6 (19.0)
		21.0 (830)	350	37	10.6 (23.3)
Mixed Gas (Ar + CO ₂)	20 (3/4)	11.2 (440)	280	30	5.6 (12.3)
		12.8 (503)	320	33	6.5 (14.3)
		14.0 (551)	350	36	7.1 (15.7)
1.4mm (0.052in), DC +					
100% CO ₂ Gas	20 (3/4)	12.0 (472)	300	34	8.3 (18.3)
		14.6 (575)	340	36	10.1 (22.2)
		15.8 (622)	360	39	11.0 (24.2)
Mixed Gas (Ar + CO ₂)	20 (3/4)	8.7 (343)	300	32	6.0 (13.2)
		9.5 (374)	340	34	6.6 (14.5)
		10.0 (394)	360	35	6.9 (15.3)
1.6mm (1/16in), DC +					
100% CO ₂ Gas	20 (3/4)	9.4 (370)	340	37	8.5 (18.7)
		11.7 (460)	390	43	10.6 (23.3)
		12.2 (480)	400	44	11.1 (24.4)
Mixed Gas (Ar + CO ₂)	20 (3/4)	6.6 (260)	340	34	6.0 (13.2)
		8.2 (322)	390	38	7.4 (16.3)
		8.6 (339)	400	38	7.8 (17.2)