

SPOOLARC 83 AWS /ASME SFA5.28: ER80S-D2/ER90S-D2

FEATURES

Spoolarc 83 contains 0.5% Mo to provide higher deposit strength in both the as welded and stress relieved conditions. It contains high levels of Manganese and Silicon to provide good wetting and good rust and scale tolerance. Spoolarc 83 is also used for all-position welding of high tensile pipe and tubing commonly found in earthmoving and construction equipment. It is available in forms suitable for MIG and TIG welding.

CLASSIFICATIONS AND APPROVALS

- Certified by CWB to CSA W48
- AWS/ASME SFA5.28: ER80S-D2/ER90S-D2
- CAN/CSA-ISO14341,B-G 55A 3 G4M31 (ER80S-3)
- MIL-E-23765/2; 80S-3
- AWS/ASME SFA5.23: EA3K

INDUSTRIES

- General Fabrication
- Mobile Machinery
- Automotive
- Shipbuilding

TYPICAL MECHANICAL PROPERTIES

As Welded 98% Ar / 2% O₂ Shielding Gas

Yield Strength	95 ksi, 655 MPa
Tensile Strength	110 ksi, 750 MPa
Elongation in 2"	22%

As Welded CO₂ Shielding Gas

Yield Strength	77 ksi, 530 MPa
Tensile Strength	92 ksi, 635 MPa
Elongation in 2"	23%

WELDING PROCESS

- GTAW (TIG)

CHARPY V-NOTCH PROPERTIES

Testing Temperature -20°F (-29°C)

As Welded CO₂ Shielding Gas

44 ft-lb, 60 J

As Welded 98% Ar / 2% O₂ Shielding Gas

87 ft-lb, 118 J

WELD METAL ANALYSIS

CO₂ Shielding Gas

C	0.08%
Mn	1.16%
Si	0.34%
P	0.008%
S	0.012%
Mo	0.39%

98% Ar / O₂ Shielding Gas

C	0.09%
Mn	1.65%
Si	0.60%
P	0.013%
S	0.012%
Mo	0.43%

Typical Wire Analysis

C	0.07%
Mn	1.78%
Si	0.66%
P	0.009%
S	0.008%
Mo	0.49%

SPOOLARC 83 continued

DEPOSITION TABLE - Spray Transfer Welding Parameters

Diameter in (mm)	Amps	Volts	Wire Feed Speed ipm (cm/min)	Deposition Rate lb/hr (kg/hr)
.023 (0.6)	100	23	400 (1016)	2.7 (1.2)
	106	23	450 (1143)	3.1 (1.4)
	111	24	500 (1270)	3.4 (1.6)
	117	24	550 (1397)	3.8 (1.7)
	122	25	600 (1524)	4.1 (1.9)
	125	25	630 (1600)	4.3 (2)
.030 (0.8)	160	24	500 (1270)	5.8 (2.6)
	173	25	550 (1397)	6.4 (2.9)
	187	25	600 (1524)	7 (3.2)
	200	26	650 (1651)	7.6 (3.4)
.035 (0.9)	180	25	400 (1016)	6.3 (2.9)
	197	26	450 (1143)	7.1 (3.2)
	213	26	500 (1270)	7.9 (3.6)
	230	27	550 (1397)	8.7 (4)
	260	25	300 (762)	7.9 (3.6)
.045 (1.2)	280	26	350 (889)	9.2 (4.2)
	300	28	400 (1016)	10.5 (4.8)
	320	29	450 (1143)	11.8 (5.4)
	340	30	500 (1270)	13.1 (6)
	275	26	265 (673)	9.3 (4.2)
	310	28	300 (762)	10.5 (4.8)
	360	31	350 (889)	12.2 (5.6)
.052 (1.3)	400	33	390 (991)	13.6 (6.2)
	290	26	180 (457)	9.1 (4.1)
	310	28	200 (508)	10.1 (4.6)
	340	31	230 (584)	11.6 (5.3)
	370	34	260 (660)	13.2 (6)
.062 (1.6)	390	36	280 (711)	14.2 (6.4)

SPOOLARC 83 continued

PART NUMBER / PRODUCT INFORMATION		
Part Number	Description	UPC
126TF45	83 035X11#SPX44#CT	662303520670
1267F28	83 1/16X36X15#CT F2	662303084561
1261F08	83 1/16X36X50#CT	662303505615
1267F30	83 3/32X36X20#CT F2	662303505998
1261F10	83 3/32X36X50#CT	662303505622
1267F32	83 1/8X36X30#CT F2	662303506001
1261F12	83 1/8X36X50#CT	662303505639