

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

Elite Series

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 100% CO₂ Shielding Gas

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

WELDING PROCESS

- GTAW (TIG)
- GMAW (MIG)
- SAW (Sub Arc)

CHARPY V-NOTCH PROPERTIES

Testing Temperature -20°F (-29°C)

As Welded 100% CO₂ Shielding Gas

44 ft-lb, 60 J

As Welded 98% Ar / 2% O₂ Shielding Gas

87 ft-lb, 118 J

WELD METAL ANALYSIS

100% 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%

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DEPOSITION TABLE - Spray Transfer Welding Parameters

Diameter in (mm)	Amps	Volts	Wire Feed Speed ipm (cm/min)	Deposition Rate lb/hr (kg/hr)
.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)
.045 (1.2)	260	25	300 (762)	7.9 (3.6)
	280	26	350 (889)	9.2 (4.2)
	300	28	400 (1016)	10.5 (4.8)
	320	29	450 (1143)	11.8 (5.4)
.052 (1.3)	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)
.062 (1.6)	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)
	390	36	280 (711)	14.2 (6.4)

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DEPOSITION TABLE - Shortarc Transfer Welding Parameters

Diameter in (mm)	Amps	Volts	Wire Feed Speed ipm (cm/min)	Deposition Rate lb/hr (kg/hr)
.030 (0.8)	60	14	150 (381)	1.7 (0.8)
	80	15	200 (508)	2.2 (1)
	100	15	250 (635)	2.8 (1.3)
	120	16	300 (762)	3.3 (1.5)
	140	16	350 (889)	3.9 (1.8)
	144	16	350 (914)	4 (1.8)
.035 (0.9)	90	15	180 (457)	2.7 (1.2)
	113	16	220 (559)	3.3 (1.5)
	137	18	260 (660)	4 (1.8)
	160	19	300 (762)	4.6 (2.1)
.045 (1.2)	130	17	125 (318)	3.1 (1.4)
	163	18	160 (406)	4 (1.8)
	200	19	200 (508)	5 (2.3)
.052 (1.3)	150	17	135 (343)	4.5 (2.1)
	173	18	160 (406)	5.4 (2.4)
	200	20	190 (483)	6.4 (2.9)

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DEPOSITION TABLE - Subarc Deposition Data

Diameter in (mm)	Amps	Deposition Rate lb/hr (kg/hr)	Efficiency%
1/16 (1.6)	400	13.0 (5.90)	99
	500	17.0 (7.71)	99
5/65 (2.0)	300	10.8 (4.90)	99
	400	14.5 (6.58)	99
	500	18.2 (8.26)	99
3/32 (2.4)	400	13.2 (5.99)	99
	500	17.0 (7.71)	99
	600	22.0 (9.98)	99
1/8 (3.2)	400	11.0 (4.99)	99
	500	14.5 (6.58)	99
	600	18.0 (8.16)	99
	700	21.2 (9.62)	99
5/32 (4.0)	500	12.5 (5.67)	99
	600	16.0 (7.26)	99
	700	19.5 (23.2)	99
	800	23.0 (10.43)	99
	900	26.0 (11.79)	99
3/16 (4.8)	600	13.9 (6.31)	99
	700	17.5 (7.94)	99
	800	21.0 (9.53)	99
	900	25.0 (11.34)	99
	1,000	29.2 (13.25)	99
	1,100	34.0 (15.42)	99

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PART NUMBER / PRODUCT INFORMATION		
Part Number	Description	UPC
126TF45	83 035X11#SPX44#CT	662303520670
1268F05	83 035X33#SP	662303506032
1262F05	83 035X44#SP	662303505677
1262F05S	83 035X44#SP	662303670474
126UF65	83 035X550#OMP 20 2/PLT	662303668198
126UF45	83 035X900#OMP 2/PLT	662303668594
1268F07	83 045X33#SP	662303506049
1262F07	83 045X44#SP	662303505684
1262F07S	83 045X44#SP	662303670481
126UF67	83 045X550#OMP 20 2/PLT	662303668181
126UF47	83 045X900#OMP 2/PLT	662303668419
126XF47	83 045X900#OMP PBPLT	662303080075
1268F41	83 052X60#SP	662303668662
126UF61	83 052X550 # OMP 20 2/PLT	662303670702
126UF41	83 052X900#OMP 2/PLT	662303668600
1262F08	83 1/16X44#SP	662303505691