Spoolarc 87HP

Spoolarc 87HP is a high manganese carbon steel wire. It features an optimized manganese to silicon ratio to produce excellent appearing welds over a wide range of welding parameters. It also produces excellent weld metal mechanical properties. Spoolarc 87HP is suitable for welding over moderate amounts of rust and scale. This wire is widely used for robotic welding applications in the automotive industry, and fabrication of heavy equipment and farm implements. Spoolarc 87HP is also available as a TIG rod.

Classifications:	AWS A5.18:ER70S-7
Industry or Segmentation:	Ship/Barge Building, Mobile Equipment, Industrial and General Fabrication, Automotive

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
100% CO2			
As Welded	470 MPa (68 ksi)	565 MPa (82 ksi)	27 %
75% Ar - 25% CO2			
As Welded	480 MPa (70 ksi)	565 MPa (82 ksi)	29 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
100% CO2		
As Welded	-29 °C (-20 °F)	75 J (55 ft-lb)
75% Ar - 25% CO2		
As Welded	-29 °C (-20 °F)	84 J (62 ft-lb)

Wire Composition %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu
0.9	1.6	0.58	0.005	0.008	0.02	0.02	0.03	0.02

72-en_US-FactSheet_Main-01.pdf 02/23/17

SPOOLARC RECOMMENDED WELDING PARAMETERS

Recommended Welding Parameters					Optimum		
Diameter, mm (in.)	**Length/Wt., m/kg (in./lb)**	**Amps, A**	**Volts, V**	**Wire Feed Speed, cm/min (in./min)**	**Amps, A**	**Volts, V**	**Wire Feed Speed, cm/min (in./min)**
Short Arc Transfer							
0.6 (.023)	476 (8505)	45-90	14-16	381-965 (150-380)	70	15	762 (300)
0.8 (.030)	280 (5000)	60-140	14-16	381-889 (150-350)	100	15	559 (220)
0.9 (.035)	206 (3670)	90-160	15-19	457-762 (180-300)	130	17	635 (250)
1.2 (.045)	124 (2220)	130-200	17-19	318-508 (125-200)	160	18	381 (150)
1.4 (.052)	93 (1665)	150-200	17-20	343-483 (135-190)	160	18	356 (140)
Spray Transfer							
0.6 (.023)	476 (8505)	100-125	23-25	1016-1575 (400-620)	110	23	1143 (450)
0.8 (.030)	280 (5000)	160-200	24-26	1270-1651 (500-650)	180	25	1321 (520)
0.9 (.035)	206 (3670)	180-230	25-27	1016-1397 (400-550)	200	26	1219 (480)
1.2 (.045)	124 (2220)	260-340	25-30	762-1270 (300-500)	300	27	889 (350)
1.4 (.052)	93 (1665)	275-400	26-33	673-991 (265-390)	325	28	787 (310)
1.6 (1/16)	64 (1150)	290-400	26-36	457-711 (180-280)	340	27	508 (200)

Note: DCEP (Electrode Positive); Flow rates of 25-45 CFH is required.

SPOOLARC DEPOSITION AND EFFICIENCY DATA

Deposition Data				
Diameter, mm (in.)	**Amps, A**	**Deposition Rate, kg/h (lb/h)**		
		98% Ar - 2% O2 *98% Efficiency	**75% Ar - 25% CO2 *96% Efficiency**	**100% CO2 *93% Efficiency**
0.8 (.030)	75	0.91 (2.0)	0.86 (1.9)	0.82 (1.8)
	100	1.18 (2.6)	1.18 (2.6)	1.13 (2.5)
	150	1.86 (4.1)	1.81 (4.0)	1.77 (3.9)
	200	3.08 (6.8)	3.04 (6.7)	2.95 (6.5)
0.9 (.035)	80	1.00 (2.2)	0.95 (2.1)	0.91 (2.0)
	100	1.22 (2.7)	1.22 (2.7)	1.18 (2.6)
	150	1.90 (4.2)	1.86 (4.1)	1.81 (4.0)
	200	2.81 (6.2)	2.72 (6.0)	2.68 (5.9)
	250	4.08 (9.0)	3.99 (8.8)	3.90 (8.6)
1.2 (.045)	100	0.95 (2.1)	0.91 (2.0)	0.86 (1.9)
	125	1.27 (2.8)	1.27 (2.8)	1.22 (2.7)
	150	1.63 (3.6)	1.59 (3.5)	1.54 (3.4)
	200	2.54 (5.6)	2.49 (5.5)	2.40 (5.3)
	250	3.58 (7.8)	3.45 (7.6)	3.36 (7.4)
	300	4.63 (10.2)	4.53 (10.0)	4.40 (9.7)
	350	5.99 (13.2)	5.85 (12.9)	5.67 (12.5)
1.6 (1/16)	250	2.92 (6.5)	2.90 (6.4)	2.81 (6.2)
	275	3.49 (7.7)	3.45 (7.6)	3.31 (7.3)
	300	4.08 (9.0)	3.99 (8.8)	3.86 (8.5)
	350	5.13 (11.3)	4.99 (11.0)	4.85 (10.7)
	400	6.35 (14.0)	6.21 (13.7)	6.03 (13.3)
	450	7.89 (17.4)	7.76 (17.1)	7.48 (16.5)

**Use this figure as the deposition efficiency in the weld metal cost per lb. (kg) calculations.*