Spoolarc 75

Spoolarc 75 is a copper-coated 1% nickel solid wire for carbon steel and low alloy MIG welding applications. Spoolarc 75 produces a deposit that meets the weathering requirements of AWS D1.1 and D1.5 and is designed to weld weathering steels and/or where improved low temperature impact toughness is specified. Shielding gas choices for Spoolarc 75 are Ar/CO2 mixtures containing a minimum of
75% Ar or the 98% Ar/2% O2. Spoolarc 75 is used for bridge and structural welding.

Classifications:	AWS A5.28:ER80S-Ni1, AWS A5.23 :ENi1K, ASME SFA 5.28, ASME SFA 5.23
Industry or Segmentation:	Mobile Equipment, Ship/Barge Building, Industrial and General Fabrication, Bridge Construction

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
98% Ar - 2% O2			
As Welded	485 MPa (70 ksi)	560 MPa (81 ksi)	31 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
98% Ar - 2% O2		
As Welded	-45 °C (-50 °F)	135 J (100 ft-lb)

Wire Composition %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu
0.08	0.94	0.49	0.002	0.01	0.98	0.04	0.01	0.08

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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.*