

## Strongweld Mig ER70S-6 & Mig Indura 70S-6 (80Ar-20CO<sup>2</sup> Gas Mix)

Carbon Steel Solid Wire for Gas Metal Arc Welding (GMAW) process, aka MIG Welding.

### Classification

AWS A5.18/A5.18M

ER 70S-6

### Description

- Carbon steel wire with excellent weldability and tolerance to oxidized surfaces.
- Used mainly with CO<sub>2</sub> and gas Ar-CO<sub>2</sub> Mixtures (Argon 80% – CO<sub>2</sub> 20% mixture)
- The high content of silicon and manganese give excellent rust resisting properties, which ensures a weld free of porosity over a wide range of jobs
- It is recommended for use in carbon and low alloy steel.
- Used in building pressure vessels, welding of pipes, structures, etc.

#### Typical Chemical Composition of All-Weld Metal (%):

C	Si	Mn	P	S
0.08	0.86	1.44	0.0012	0.014

#### Typical Mechanical Properties of All-Weld Metal:

	Yield Strength, Ksi	Tensile Strength, Ksi	Elongation (L=4d), %	Impact Test Charpy-V
AWS A5.18	58 Min.	70 Min.	22 Min.	20 ft*lbf at -20°F
Strongweld E70S-6	61	77	31	70 ft*lbf at -20°F

#### Approvals:

Shielding gas	ABS	GL	Lloyd s Register	NKK
Mix	.	3YS	3YS H15	KSW53G
CO <sub>2</sub>	3SA-3Y5A	3YS	3YS H15	KSW53G

Packaging, sizes and code SAP:

Diameter	0.030"/0.8mm		0.035"/0.9mm				0.045"/1.1mm 0.052"/1.3mm				1/16"/1.6mm
Packaging	33Lb	40Lb	33Lb	40Lb	275Lb	550Lb	33lb	44Lb	275Lb	550Lb	33Lb

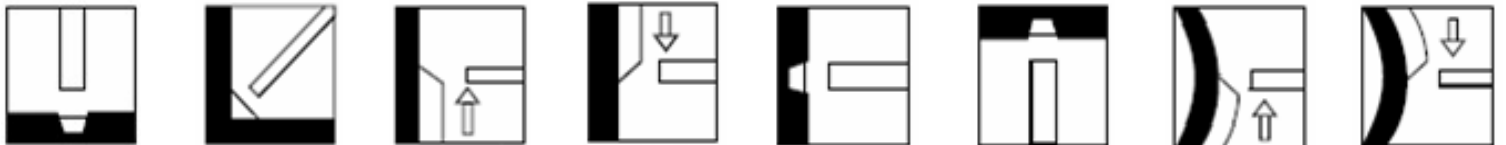
Calculation Data:

Diameter	Stick- Out (Pulg)	Wire Feed Speed (Pulg/min)	Current (A)	Arc Voltage (v)	Deposition Rate (lb/h)
0.045"	5/8	177	170	18-20	4
		322	220	23-25	8
		598	330	29-31	15

Recommender Operating Parameters:

Diameter, Inch	0.030"/0.8mm	0.035"/0.9mm	0.045"/1.1mm	1/16"/1.6mm
Current (amp)	60-160	90-230	130-340	290-400
Voltage, Volts	14-26	15-27	17-30	26-36
ESO, Inch	1/2 to 1"	1/2 to 1"	1/2 to 1"	1/2 to 1"

### Welding Positions



## DCEP – DC+

High Speed applications using 98% Ar - 2% CO<sup>2</sup> gas mix require different welding parameters which are detailed on the next page.

**Typical Welding Parameters for Mig Wire ER70S-6 when using a gas mixture**

**98% Ar – 2% CO<sup>2</sup>**

**Values indicated by transfer type**

Typical Operating Procedures:					
Diameter, Polarity	CTWD in (mm)	Wire Feed Speed in/min (m/min)	Voltage (volts)	Approx. Current (amps)	Melt-Off Rate lb/hr (kg/hr)
0.035 in (0.9 mm), DC+					
Short Circuit Transfer 98% Ar / 2% O <sub>2</sub>	3/8-1/2 (9-12)	100 (2,5)	15	60	1,6 (0,7)
		125 (3,2)	16	70	2,0 (0,9)
		150 (3,8)	17	80	2,4 (1,1)
		200 (5,1)	18	110	3,2 (1,4)
		250 (6,4)	19	120	4,0 (1,8)
		300 (7,6)	19	140	4,8 (2,2)
Spray Transfer 98% Ar / 2% O <sub>2</sub>		375 (9,5)	28	170	6,0 (2,7)
		475 (12,1)	29	230	7,5 (3,4)
		500 (12,7)	30	240	7,9 (3,6)
0.045 in (1.1 mm), DC+					
Short Circuit Transfer 98% Ar / 2% O <sub>2</sub>	1/2-3/4 (12-19)	125 (3,2)	16	140	3,3 (1,5)
		150 (3,8)	18	160	3,9 (1,8)
		200 (5,1)	20	200	5,3 (2,4)
Spray Transfer 98% Ar / 2% O <sub>2</sub>		300 (7,6)	29	240	7,9 (3,6)
		350 (8,9)	31	260	9,2 (4,2)
		475 (12,1)	33	340	12,5 (5,7)