Inweld
Welding Alloys and Supplies

Datasheet

Chemical Composition of AWS A5.18 ER70S-6

Fe	C	Cr	Ni	Mo	Mn	Si	P	S	V	Cu
Balance	0.06-0.15	0.15	0.15	0.15	1.4-1.85	0.80-1.15	0.025	0.035	0.03	0.50

Single values are maximum unless otherwise specified.

Description and Application

Inweld 70S-6 contains higher levels of manganese and silicon than many other classifications of mild steel wires. The increased Mn and Si content gives stronger deoxidizing power when welding over mild or carbon steel that may have traces of rust or mill scale such as found on structural and plate steels.

Inweld 70S-6 is used for single or multi-pass welding. An excellent choice for sheet metal applications, where the higher silicon content creates excellent “wetting out” properties and produces weld deposits that are essentially flat to slightly convex and require little or no grinding. Weld deposits are x-ray quality.

Typical Weld Metal Properties

	AWS Spec
Tensile Strength:	70,000 psi
Yield Strength:	58,000 psi
Elongation:	22%
Charpy V-Notch at -20°F:	20 ft/lbs

Recommended Parameters

GMAW (DCEP - Electrode+) 100 % CO , or a 75-25% Argon/CO Mixture For Solid Wire, 98 % Argon / 2% CO2 Mixture For Spray Transfer

Wire Diameter	Voltage	Amperage	Wire Feed IPM
0.023”	14-19	30-85	360-620
0.030”	15-20	40-130	390-670
0.035”	16-25	60-235	360-520
0.045”	18-23	90-290	210-360
0.035”	23-36	160-300	
0.045”	23-29	170-375	
1/16”	25-31	275-475	

GTAW (DCEN - Electrode -) 100% Ar 2% Thoriated, or 1.5% Lanthanum Tungsten Electrode

Material	Tungsten Dia.	Filler Wire Size	Amperage	Argon (CFH)

1/16”	1/16”	1/16”	100-140	20
3/32”	1/16”	1/16”	100-160	20
1/8”	3/32”	1/16”	125-200	20
3/16”	3/32”	3/32”	150-250	25
1/4"	1/8”	1/8”	150-250	25