Oxford Alloy® 70S-3

AWS ER70S-3 • Mild Steel

Key Features

- Silicon and manganese deoxidized wire used for mild and low alloy steel general purpose fabrication.
- Produces quality welds with rimmed steels, better welds on semi-deoxidized steels and excellent welds on fully deoxidized steels.
- Some typical applications include earthmoving and farm equipment, automobile frames, sheet metal, ships and barges, railcars, abd trailers.

Conformances

AWS/ASME SFA 5.18
ER70S-3
UNS K11022

Chemical Composition - As required per AWS 5.18

C	Mn	Si	P	S	Ni	Cr
0.06-0.15	0.90-1.40	0.45-0.75	0.025 max	0.035 max	0.15 max	0.15 max
Mo	**V**	**Cu**				
0.15 max	0.03 max	0.50 max				

Mechanical Properties - As required by AWS 5.18

	Tensile Strength MPa (ksi)	Yield Strength MPa (ksi)	Elongation %
AWS Requirements	480 (70) min	400 (58) min	22 min
Typical Results - As welded	520 (75)	430 (62)	33

Typical Welding Parameters

Diameter in	Diameter (mm)	Process	Volt	Amps	Shielding Gas
.035	0.9	GMAW	28-32	165-200	Spray Transfer: 98% Argon + 2% Oxygen or 75% Argon + 25% CO_2
.045	1.2	GMAW	30-34	180-220	
1/16	1.6	GMAW	30-34	230-260	
.035	0.9	GMAW	22-25	100-140	Short Circuiting Transfer: 100% CO_2 or 75% Argon + 25% CO_2
.045	1.2	GMAW	23-26	120-150	
1/16	1.6	GMAW	23-26	160-200	
1/16	1.6	GTAW	12-15	100-125	100% Argon
3/32	2.4	GTAW	15-20	125-175	100% Argon
1/8	3.2	GTAW	15-20	175-250	100% Argon

Diameters & Packaging

Oxford Alloys USA			Oxford Alloys Asia Pacific		
Diameter (in)	Form	Packaging (lbs)	Diameter (mm)	Form	Packaging (kgs)
.035	GMAW	33 lb spool | 1980 lb pallet	0.9	GMAW	15 kg spool | 900 kg pallet
.045	GMAW	33 lb spool | 1980 lb pallet	1.2	GMAW	15 kg spool | 900 kg pallet
1/16	GMAW	33 lb spool | 1980 lb pallet	1.6	GMAW	15 kg spool | 900 kg pallet
1/16	GTAW	10 lb tube | 40 lb carton	1.6	GTAW	5 kg tube | 20 kg carton
3/32	GTAW	10 lb tube | 40 lb carton	2.4	GTAW	5 kg tube | 20 kg carton
1/8	GTAW	10 lb tube | 40 lb carton	3.2	GTAW	5 kg tube | 20 kg carton

Actual test results may vary. Refer test result disclaimer on page 160.