

Oxford Alloy[®] 70S-2

AWS ER70S-2 • Mild Steel



Key Features

- ❖ Triple deoxidized (aluminum, titanium, zirconium) welding wire designed for welding over rust and mill scale.
- ❖ The less fluid weld puddle of Oxford Alloy ER70S-2 makes it easier to control when used out of position.
- ❖ This wire is preferred for all position welding of small diameter pipe.

Conformances

AWS/ASME SFA 5.18
ER70S-2
UNS K10726

Chemical Composition - As required per AWS 5.18

C	Mn	Si	P	S	Ni	Cr
0.07 max	0.90- 1.40	0.40- 0.70	0.025 max	0.035 max	0.15 max	0.15 max
Mo	V	Al	Zr	Ti	Cu	
0.15 max	0.03 max	0.05- 0.15	0.02- 0.12	0.05- 0.15	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	550 (80)	490 (71)	29

Typical Welding Parameters

Diameter		Process	Volt	Amps	Shielding Gas
in	(mm)				
.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	
.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.