Oxford Alloy® 825

AWS ERNiFeCr-1 • Nickel Alloys

Key Features

- Used for welding of nickel-chromium-molybdenum-copper alloys.
- Also can be used to overlay cladding where similar chemical composition is required.

Conformances

AWS/ASME SFA 5.14
ERNiFeCr-1
UNS N08065

Chemical Composition - As required per AWS 5.14						
Ni	**C**	**Mn**	**Fe**	**S**	**Si**	**Cu**
38.0-46.0	0.05 max	1.0 max	22.0 min	0.03 max	0.50 max	1.5-3.0
Cr	**Al**	**Ti**	**Mo**	**P**	**OET**	
19.5-23.5	0.20 max	0.60-1.20	2.50-3.50	0.03 max	0.50 max	

Mechanical Properties - As required by AWS 5.14			
	Tensile Strength MPa (ksi)	Yield Strength MPa (ksi)	Elongation %
AWS Requirements	550 (80) typical	Not Specified	Not Specified
Typical Results - As welded	550 (80)		25

Typical Welding Parameters					
Diameter		**Process**	**Volt**	**Amps**	**Shielding Gas**
in	**(mm)**				
.035	0.9	GMAW	26-29	150-190	Spray Transfer 100% Argon
.045	1.2	GMAW	28-32	180-220	
1/16	1.6	GMAW	29-33	200-250	
1/16	1.6	GTAW	14-18	90-130	100% Argon
3/32	2.4	GTAW	15-20	120-175	100% Argon
1/8	3.2	GTAW	15-20	150-220	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.