Oxford Alloy® 2594-16

AWS E2594-16 • Super Duplex

Key Features

- A super-duplex grade electrode that provides matching chemistry and mechanical property characteristics to wrought super-duplex alloys such as 2507 and Zeron 100, as well as to super-duplex casting alloys (ATSM A890).
- The electrode is over-alloyed 2-3% in nickel to provide the optimum ferrite/austenite ratio in the finished weld.

Conformances
AWS/ASME SFA 5.4
E2594-16
UNS W39594

Chemical Composition - As required per AWS 5.4						
C	**Cr**	**Ni**	**Mo**	**Mn**	**Si**	**P**
0.04 max	24.0-27.0	8.0-10.5	3.5-4.5	0.5-2.0	1.0 max	0.04 max
S	**N**	**Cu**				
0.03 max	0.20-0.30	0.75 max				

Mechanical Properties - As required by AWS 5.4			
	Tensile Strength MPa (ksi)	Yield Strength MPa (ksi)	Elongation %
AWS Requirements	760 (110) min	Not specified	15 min
Typical Results - As welded	850 (123)	650 (94)	28

Typical Welding Parameters					
Diameter		**Process**	**Volt**	**Amps (flat)**	**Amps (V/OH)**
in	**(mm)**				
3/32	(2.4)	SMAW	24-28	70-85	65-75
1/8	(3.2)	SMAW	26-30	85-110	80-90
5/32	(4.0)	SMAW	28-32	110-140	100-120
3/16	(4.8)	SMAW	28-32	120-160	110-130

Diameters & Packaging					
Oxford Alloys USA			**Oxford Alloys Asia Pacific**		
Diameter (in)	**Length (in)**	**Packaging (lbs)**	**Diameter (mm)**	**Length (mm)**	**Packaging (kgs)**
3/32"	12	10 lb tube | 30 lb carton	2.6	300	4 kg tube | 12 kg carton
1/8"	14	10 lb tube | 30 lb carton	3.2	350	5 kg tube | 15 kg carton
5/32"	14	10 lb tube | 30 lb carton	4.0	350	5 kg tube | 15 kg carton
3/16"	14	10 lb tube | 30 lb carton	5.0	350	5 kg tube | 15 kg carton

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