

Oxford Alloy® 2594

AWS ER2594 • Super Duplex



Key Features

- ❖ Super-duplex grade 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).
- ❖ Over-alloyed 2-3% in nickel to provide the optimum ferrite/austenite ratio in the finished weld. This structure results in high tensile and yield strengths and superior resistance to stress corrosion cracking (SCC) and pitting corrosion.

Conformances

AWS/ASME SFA 5.9
ER2594
UNS S32750

Chemical Composition - As required per AWS 5.9						
C	Cr	Ni	Mo	Mn	Si	P
0.03 max	24.0-27.0	8.0-10.5	2.5-4.5	2.5 max	1.0 max	0.03 max
S	N	Cu	W			
0.02 max	0.20-0.30	1.5 max	1.0 max			

Mechanical Properties - As required by AWS 5.9			
	Tensile Strength MPa (ksi)	Yield Strength MPa (ksi)	Elongation %
AWS Requirements	Not Specified		
Typical Results - As welded	650 (94)	850 (123)	28

Typical Welding Parameters

Diameter		Process	Volt	Amps	SAW Flux
in	(mm)				
3/32	2.4	SAW	28-30	275-350	Suitable Flux
1/8	3.2	SAW	29-32	350-450	Suitable Flux

Diameters & Packaging

Oxford Alloys USA			Oxford Alloys Asia Pacific		
Diameter (in)	Form	Packaging (lbs)	Diameter (mm)	Form	Packaging (kgs)
3/32	SAW	60 lb Coil 1800 lb pallet	2.4	SAW	25 kg Coil 750 kg pallet
1/8	SAW	60 lb Coil 1800 lb pallet	3.2	SAW	25 kg Coil 750 kg pallet

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