



Supplier of Welding Alloys

## Stainless Steel Coated Electrodes

### Oxford Alloy® 2594-16

**SPECIFICATIONS**

AWS 5.4  
ASME SFA 5.4

**CLASSIFICATIONS**

AWS E2594-16  
UNS W39594

**DESCRIPTION / APPLICATION**

Oxford Alloy E2594-16 is a superduplex coated electrode. The Pitting Resistance Equivalent Number (PREN) is at least 40, thereby allowing the weld metal to be called a superduplex stainless steel. These coated electrodes provide matching chemistry and mechanical property characteristics to wrought super duplex alloys such as 2507 and Zeron 100 as well as superduplex casting alloys (ASTM A890). This electrode is overalloyed 2 – 3 percent in Nickel to provide optimum ferrite/austenite ratio in the finished weld. This structure results in high tensile and yield strength along with superior resistance to SCC and pitting corrosion.

Set the parameters to obtain a heat input of 13,000 – 38,000 Joules/inch. Pre-heat is not required. The interpass temperature should be maintained at 300°F max. If post weld annealing is required this weld metal will require a higher annealing temperature than that required by the duplex base metal.

AWS Chemical Composition						
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				

**TYPICAL MECHANICAL PROPERTIES**

Tensile strength: 130,500 psi 900 MPa  
Yield strength: 100,775 psi 695 MPa  
Elongation: 31%

Please contact our sales department for more information at 800-562-3355 or 225-273-4800.

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