

Oxford Alloy® 2209-16

AWS E2209-16 • Duplex



Key Features

- ❖ Used to weld duplex stainless steels such as (Type 2205).
- ❖ Offers excellent resistance to stress corrosion, cracking and pitting.
- ❖ The microstructure of the weld metal consists of austenite and ferrite.
- ❖ Welding of duplex stainless steels calls for controlled welding parameters to achieve specified mechanical and corrosion resistant properties.

Conformances

AWS ASME SFA 5.4
E2209-16
UNS W39209

Chemical Composition - As required per AWS 5.4

C	Mn	Si	Cr	Ni	Mo	S
0.04 max	0.5-2.0	1.0 max	21.5-23.5	8.5-10.5	2.5-3.5	0.03 max
P	Cu	N				
0.04 max	0.75 max	0.08-0.20				

Mechanical Properties - As required by AWS 5.4

	Tensile Strength MPa (ksi)	Yield Strength MPa (ksi)	Elongation %
AWS Requirements	690 (100) min	Not specified	20 min
Typical Results - As welded	860 (125)	650 (94)	32

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.