WELDWIRE COMPANY, INC. **Technical Information**

Stainless Steel Electrodes

Alloy: WW312-16 Class: E312-16

Conforms to Certification: AWS A5.4 ASME SFA A5.4

Alloy: E312-16

Weld Process: Shielded Manual Metal Arc

AWS Chemical Composition Requirements

C = 0.15 max	Si = 1.0 max
Cr = 28.0 – 32.0	P = 0.04 max
Ni = 8.0 – 10.5	S = 0.03 max
Mo = 0.75 max	Cu = 0.75 max
Mn = 0.5 – 2.5	

Deposited All Weld Metal Properties %
(Typical) As-Welded

Yield Strength	109,000psi
Tensile Strength	78,000psi
Elongation	23%

Deposited Chemical Composition % (Typical)

C = 0.12	Si = 0.56
Cr = 29.30	P = 0.021
Ni = 9.40	S = 0.022
Mn = 1.80	

Deposited Charpy-V-Notch Impact Properties %

Not Applicable

Recommended Welding Parameters

Diameter	Voltage	Amperage Flat Position	Amperage Vertical & Overhead
3/32	24-28	70-85	65-75
1/8	26-30	85-110	80-90
5/32	28-32	110-140	100-120
3/16	28-32	120-160	110-130

Application

E312-16 electrodes were originally designed for the welding of high tensile alloys to high temperature heat-resisting alloys on turbo-jet engines. However, based upon performance, these electrodes have found wide acceptance for the welding of newly developed high yield steels and abrasion resisting steels and dissimilar steels. The weld deposit of the E312-16 electrodes, "as welded," has the highest tensile and yield strength of any stainless arc welding electrode commonly used today.

If additional information is needed Contact Weldwire Company, Inc. 800-523-1266