

Flux Cored Stainless Steel Electrodes

(Gas Shielded)

Alloy: WW316HT-1

Class: E316HTX-X

Conforms to Certification: AWS A5.22

ASME SFA A5.22

Alloy: E316HT-1

Weld Process: Gas Metal Arc

AWS Chemical Composition Requirements

C = 0.04 - 0.08	S = 0.03 max
Mn = 0.5 – 2.5	Cr = 17.0 – 20.0
Si = 1.0 max	Ni = 11.0 – 14.0
P = 0.04 max	Mo = 2.0 – 3.0
Cu = 0.75 max	

Deposited Chemical Composition % (Typical)

C = 0.05	Mn = 1.2	Si = 0.6
P = 0.03	S = 0.01	Cr = 19.00
Ni = 12.00	Mo = 2.4	

Deposited All Weld Metal Properties %

As-Welded

Tensile Strength	85,000psi
Yield Strength	58,000psi
Elongation	35%

Deposited Charpy-V-Notch Impact Properties %

Not applicable

Application

Electrodes of this classification usually are used for welding similar alloys. These electrodes have been used successfully in applications involving special alloys for high temperature service. Carbon content is in the high range 0.04 – 0.08% as compared to E316LTX-X.

Suggested Welding Parameters

Diameter .035

	<u>Optimum Parameters</u>			<u>Operating Range</u>	
	Wire Feed Speed	Amps	Volts	Amps	Volts
Flat	365" / minute	130-140	24-25	100-170	21-26
Horizontal	365" / minute	130-140	24-25	100-170	21-26
Vertical-Up	310" / minute	110-120	22-23	110-120	21-23
Overhead	320" / minute	120-130	23-24	120-130	22-24

Diameter .045

	<u>Optimum Parameters</u>			<u>Operating Range</u>	
	Wire Feed Speed	Amps	Volts	Amps	Volts
Flat	450" / minute	180-200	25-27	135-250	24-32
Horizontal	450" / minute	180-200	25-27	135-250	24-32
Vertical-Up	325" / minute	150-170	24-26	135-200	24-26
Overhead	425" / minute	175-195	25-27	155-200	25-28

Diameter 1/16

	<u>Optimum Parameters</u>			<u>Operating Range</u>	
	Wire Feed Speed	Amps	Volts	Amps	Volts
Flat	264" / minute	220-240	25-27	170-300	24-31
Horizontal	235" / minute	200-220	25-27	170-270	24-29
Vertical-Up	220" / minute	190-210	25-26	170-230	24-27
Overhead	235" / minute	200-220	25-26	170-270	24-29

For best results, set the wire feed speed and adjust the voltage for smoothest operation. Electrode extension range is from 1/2" to 1," with an optimum range of 5/8" to 3/4." Weld using reverse polarity DC(+).

Shielding Gas

75% argon / 25% CO₂ (or nearest equivalent) shielding gas; however, straight CO₂ may also be used. The 75/25 mixture will produce a smoother arc with virtually no spatter and slightly higher yield and tensile strengths than CO₂. The mechanical properties and deposit analyses will meet AWS A5.22 specifications with either gas.

