

Arcaloy 308L-15

Arcaloy 308L-15 electrodes were developed for the welding of Type 304L stainless steels but can be used for many other stainless steels including Types 301, 302 & 304. They are used extensively for the welding of chemical plant equipment and may be used successfully for the welding of Types 321 and 347 stainless steels provided the service temperature is less than about 700°F (375°C). The basic coating of Arcaloy 308L-15 gives the highest resistance to cracking and excellent vertical welding characteristics. Operates on DC current only.

Classifications:	AWS A5.4:E308-15/E308L-15
Approvals:	QPL-22200/2 MIL-308L-15
Industry or Segmentation:	Ship/Barge Building, Petrochemical, Industrial and General Fabrication, Tank and Vessel Fabrication

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	430 MPa (63 ksi)	520 MPa (90 ksi)	45 %

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	Cu	Ferrite FN
0.03	1.70	0.55	10	20	0.10	0.10	6

Arcaloy 308L-16

Arcaloy 308L-16 electrodes were developed for the welding of Type 304L stainless steels but can be used for many other stainless steels including Types 301, 302 & 304. They are used extensively for the welding of chemical plant equipment and may be used successfully for the welding of Types 321 and 347 stainless steels provided the service temperature is less than about 700°F (375°C). The basic-rutile thin coating of Arcaloy 308L-16 gives an excellent combination of welding performance in all positions and a high resistance to cracking. Operates on AC or DC current.

Classifications:	AWS A5.4:E308-16/E308L-16
Approvals:	QPL-22200/2 MIL-308L-16, CWB CSA W48 E308L-16
Industry or Segmentation:	Tank and Vessel Fabrication, Ship/Barge Building, Industrial and General Fabrication, Petrochemical

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	460 MPa (66 ksi)	520 MPa (90 ksi)	45 %

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	Cu	Ferrite FN
0.03	1.70	0.50	10	20	0.10	0.10	6

Arcaloy 308/308H-16

Arcaloy 308/308H-16 electrodes were designed for the welding Types 304H & 304 where temperature in excess of 700°F (371°C) requires additional creep strength. They can equally well be used for the welding of stainless steel Types 301, 302 and 305. In some cases where the creep ductility of 347 weld metal is a concern, Arcaloy 308/308H electrodes can be used. The basic-rutile thin coating of Arcaloy 308/308H-16 gives an excellent combination of welding performance in all positions and a high resistance to cracking. Operates on AC or DC current.

Classifications:	AWS A5.4:E308-16/E308H-16
Approvals:	ABS AWS A5.4: E308/308H-16, MIL-E-22200/2 MIL-308-16
Industry or Segmentation:	Industrial and General Fabrication, Power Generation, Petrochemical, Tank and Vessel Fabrication, Food and Beverage

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties			
Condition	Yield Strength	Tensile Strength	Elongation
As Welded	410 MPa (66 ksi)	610 MPa (89 ksi)	44 %

Typical Weld Metal Analysis %							
C	Mn	Si	Ni	Cr	Mo	Cu	Ferrite FN
0.04	1.80	0.50	10	20	0.30	0.10	9

Arcaloy 309L-15

Arcaloy 309L-15 is used for welding carbon and low alloy steels to stainless steels. This can be done provided the service temperature does not exceed about 700°F (370°). Post weld heat treatment should only be taken with great care. Arcaloy 309L-15 can be used as the first layer of stainless steel on carbon or low alloy steel.

Classifications:	AWS A5.4:E309L-15/E309-15
Approvals:	ASME IX F No. 5 , ASME II SFA A5.4 E309L-15/E309-15, AWS A5.4 E309L-15/E309-15, QPL MIL-E-22200/2 MIL-309L-15
Industry or Segmentation:	Industrial and General Fabrication

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties			
Condition	Yield Strength	Tensile Strength	Elongation
As Welded	415 MPa (60 ksi)	590 MPa (85 ksi)	45 %

Typical Weld Metal Analysis %							
C	Mn	Si	Ni	Cr	Mo	Cu	Ferrite FN
0.035	1.8	0.5	13.5	24	0.3	0.1	9

Arcaloy 309L-16

Arcaloy 309L-16 is used for welding carbon and low alloy steels to stainless steels. This can be done provided the service temperature does not exceed about 700°F (370°C). Post weld heat treatment should only be performed after due consideration.

Classifications:	AWS A5.4:E309L-16/E309-16, ASME II SFA A5.4, ASME IX F No. 5
Approvals:	CWB CSA W48: E309L-16
Industry or Segmentation:	Industrial and General Fabrication

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	450 MPa (65 ksi)	590 MPa (85 ksi)	37 %

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	Cu	Ferrite FN
0.03	1.80	0.45	13.50	23.50	0.30	0.10	9

Arcaloy 309/309H-16

Arcaloy 309/309H-16 is used for welding base metal for all service temperatures designed for Type 309. Carbon content 0.04% minimum. It can be used for carbon and low alloy steels and stainless steel dissimilar joints.

Classifications:	AWS A5.4:E309-16/E309H-16, ASME IX F No. 5, ASME II SFA E309-16
Approvals:	ABS AWS A5.4 E309-16, QPL MIL-E-22200/2 MIL-309-16
Industry or Segmentation:	Industrial and General Fabrication, Petrochemical

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	380 MPa (55 ksi)	620 MPa (90 ksi)	40 %

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	Cu	Ferrite FN
0.06	1.80	0.50	13.50	24	0.10	0.10	7

Arcaloy 316LF5-15

Arcaloy 316LF-15 is a 316L electrode designed to give a weld deposit with a minimum ferrite number of 5 FN. Carbon content is 0.04% maximum and can be used to weld Type 304L stainless steel where the presence of molybdenum is not detrimental.

Classifications:	AWS A5.4:E316-15/E316L-15
Approvals:	QPL-22200/2 MIL-316L-15
Industry or Segmentation:	Petrochemical, Industrial and General Fabrication, Food and Beverage, Chemical Industry

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	430 MPa (62 ksi)	560 MPa (81 ksi)	40 %

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	Cu	Ferrite FN
0.03	1.50	0.50	12	19	2.40	0.20	6

Arcaloy 316LF5-16

Arcaloy 316LF5-16 is an E316L-16 electrode where the composition has been balanced to give a weld deposit with a minimum ferrite content of 5 FN. It can be used to weld Type 304L stainless steel where the presence of molybdenum is not detrimental.

Classifications:	AWS A5.4:E316-16/E316L-16
Approvals:	CWB CSA W48: E316L-16, QPL MIL-E-22200/2 MIL-316L-16
Industry or Segmentation:	Petrochemical, Industrial and General Fabrication, Chemical Industry, Food and Beverage

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	450 MPa (65 ksi)	570 MPa (83 ksi)	40 %

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	Cu	Ferrite FN
0.03	1.50	0.40	12	19	2.50	0.20	6

Arcaloy 316/316H-16

Arcaloy 316/316H-16 should be used in applications where Type 316 stainless steel needs improved high temperature. In some cases an E16-8-2 filler metal should be used. It can also be used to weld Type 316 stainless steel for ambient temperature service.

Classifications:	AWS A5.4:E316/316H-16
Approvals:	ABS AWS A5.4: E316/316H-16, QPL MIL-E-22200/2 MIL-316-16
Industry or Segmentation:	Industrial and General Fabrication, Petrochemical

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	490 MPa (65 ksi)	660 MPa (85 ksi)	40 %

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	Cu	Ferrite FN
0.05	1.60	0.40	12	19	2.30	0.20	5.5