

Stainless steel electrode

Classification

AWS A5.4 : E308L-16
EN 1600 : E 19 9 L R 12

Temperature range

pressurized parts : -196...+350°C
oxidation resistance : to 800°C

General description

Rutile basic all position stainless steel electrode for 304L or equivalent steels
Excellent corrosion resistance in oxidizing environments such as nitric acid
High resistance to intergranular corrosion
Smooth bead appearance
Easy slag release
Strong electrode coating
Weldable on AC and DC
Also available in vacuum sealed Sahara ReadyPack® (SRP)

Welding positions



ISO/ASME PA/1G PB/2F PC/2G PF/3Gup PE/4G PF/5Gup

Current type

AC / DC + / -

Approvals

BV	TÜV
304L	+

Chemical composition (w%), typical, all weld metal

C	Mn	Si	Cr	Ni	FN
0.02	0.80	0.80	19.5	9.7	04-10

Mechanical properties, all weld metal

	Condition	0.2% Proof strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Impact ISO-V(J)		
					+20°C	-20°C	-196°C
Required: AWS A5.4		not required	min. 520	min. 35	not required		
EN 1600		min. 320	min. 510	min. 30	not required		
Typical values	AW	440	580	43	70	60	24

Packaging and available sizes

	Diameter (mm)	1.5	2.0	2.5	3.2	4.0	5.0
	Length (mm)	250	300	350	350	350	350
Unit: Box	Pieces / unit	125	225	135	150	85	65
	Net weight/unit (kg)	0.7	2.3	2.6	4.8	4.9	4.8
Unit: SRP	Pieces / unit			69	56	29	
	Net weight/unit (kg)			1.4	1.9	1.5	
Unit: Linc Can™	Pieces / unit			242	141	84	
	Net weight/unit (kg)			4.8	4.5	4.3	

Identification

Imprint: 308L-16 / AROSTA 304 L

Tip Color: light blue

Arosta® 304L: rev. EN 21

Materials to be welded

Steel grades	EN 10088-1/-2	EN 10213-4	W.Nr.	ASTM/ACI A240/A312/A351	UNS
Extra low carbon (C <0.03%)					
	X2 CrNi 19 11		1.4306	(TP)304L	S30403
	X2 CrNiN 18 10		1.4311	CF-3 (TP)304LN 302,304	J92500 S30453 S30400
Medium carbon (C >0.03%)					
	X4 CrNi 18 10		1.4301	(TP)304	S30409
		GX5 CrNi 19 10	1.4308	CF 8	J92600
Ti-, Nb stabilized					
	X6 CrNiTi 18 10		1.4541	(TP)321 (TP)321H	S32100 S32109
	X6 CrNiNb 18 10		1.4550	(TP)347 (TP)347H	S34700 S34709
		GX5 CrNiNb 19 10	1.4552	CF-8C	J92710

Calculation data

Sizes Diam. x length (mm)	Current range (A)	Current type	Arc time - per electrode at max. current - (s)*	Energy E(kJ)	Dep.rate H(kg/h)	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal B	kg Electrodes/ kg weldmetal 1/N
1.5 x 250	20 - 40	DC+	25	19	0.44	5.5	330	1.82
2.0 x 300	30 - 50	DC+	43	45	0.55	10.4	154	1.59
2.5 x 350	40 - 75	DC+	51	88	0.86	19.2	82	1.59
3.2 x 350	60 - 110	DC+	57	158	1.3	32.2	49	1.59
4.0 x 350	80 - 150	DC+	65	245	1.7	47.3	32	1.52
5.0 x 350	140 - 220	DC+	66	390	2.7	76.7	20	1.56

* stub end 35 mm

Welding parameters, optimum fill passes

Welding positions Diameter (mm)	PA/1G	PB/2F	PC/2G	PF/3G up	PE/4G	PF/5G up
1.5		35A	35A			
2.0		45A	45A	40A	40A	40A
2.5	70A	70A	70A	60A	60A	60A
3.2	100A	100A	100A	70A	70A	70A
4.0	140A	140A	140A	80A		
5.0	180A	180A	180A			

For root passes DC- is recommended.