

# Arosta® 304L

EMR  
SAHARA®

## CLASSIFICATION

AWS A5.4	E308L-16	A-Nr	8	Mat-Nr	1.4316
ISO 3581-A	E 19 9 L R 12	F-Nr	5		
		9606 FM	5		

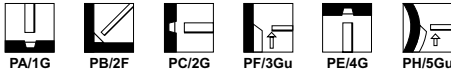
## TEMPERATURE RANGE

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

## WELDING POSITIONS (ISO/ASME)



## CURRENT TYPE

AC / DC +/-

## APPROVALS

BV	TÜV	DB
304L	+	+

## CHEMICAL COMPOSITION (W%), TYPICAL, ALL WELD METAL

C	Mn	Si	Cr	Ni	FN (acc.WRC 1992)
0.02	0.8	0.8	19.5	9.7	4-10

## MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Condition	0.2% Proof strength [N/mm <sup>2</sup> ]	Tensile strength [N/mm <sup>2</sup> ]	Elongation [%]	Impact ISO-V(J)		
				+20°C	-20°C	-196°C
Required: AWS A5.4 ISO 3581-A	not required	min. 520	min. 35	not required		
Typical values	AW 440	580	43	70	60	24

## PACKAGING AND AVAILABLE SIZES

	Diameter (mm) Length (mm)	Available Sizes				
		2.0	2.5	3.2	4.0	5.0
Carton + PE foil	Pieces / unit	225	135	150	85	65
	Net weight/unit (kg)	2.3	2.6	4.8	4.9	4.8
SRP	Pieces / unit	-	69	56	-	-
	Net weight/unit (kg)	-	1.4	1.9	-	-

Identification Imprint: 308L-16 / AROSTA 304 L Tip Color: light blue

Arosta® 304L: rev. C-EN26-12/05/16

All information in this data sheet is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.eu](http://www.lincolnelectric.eu) for any updated information.  
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## EXAMPLES OF MATERIALS TO BE WELDED

Steel grades	EN 10088-1/-2	EN 10213-4	Mat. Nr	ASTM/ACI A240/A312/A351	UNS
<b>Extra low carbon [C &lt;0.03%]</b>					
	X2CrNi19-11		1.4306	(TP)304L CF-3	S30403 J92500
	X2CrNi18-10		1.4311	(TP)304LN 302,304	S30453 S30400
<b>Medium carbon [C &gt;0.03%]</b>					
	X4CrNi18-10		1.4301	(TP)304	S30409
		GX5CrNi19-10	1.4308	CF 8	J92600
<b>Ti-, Nb stabilized</b>					
	X6CrNiTi18-10		1.4541	(TP)321 (TP)321H	S32100 S32109
	X6CrNiNb18-10		1.4550	(TP)347 (TP)347H	S34700 S34709
		GX5CrNiNb19-10	1.4552	CF-8C	J92710

SMAW

## CALCULATION DATA

Sizes Diam. x length (mm)	Current range (A)	Current type	Arc time	Energy	Dep. rate	Weight/ 1000 pcs (kg)	Electrodes/ kg weldmetal B	kg electrodes/ kg weldmetal 1/N
			- per electrode at max. current - (S)*	E(kJ)	H(kg/h)			
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 35mm

## WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions					
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G	PH/5Gup
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 pass, DC- is recommended