

**Arosta® 316L****CLASSIFICATION**

AWS A5.4 : E316L-16  
 EN 1600 : E 19 12 3 L R 12

**TEMPERATURE RANGE**

Pressurized parts : -120...+350°C  
 Oxidation resistance : n.a

**GENERAL DESCRIPTION**

Rutile-basic all position stainless steel electrode for 316L or equivalent steels

Molybdenum level min. 2.7 %

High resistance to general and intergranular corrosion

Smooth weld 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/3G up



PE/4G



PF/5G up

**CURRENT TYPE**

AC / DC + / -

**APPROVALS**

ABS	BV	DNV	GL	LR	RINA	RMRS	TÜV
+	316L	316L	4571	316L	316L	316L	+

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

C	Mn	Si	Cr	Ni	Mo	FN (acc.WRC 192)
0.02	0.8	0.8	18.0	11.5	2.85	04-10

**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	-120°C
Required: AWS A5.4 EN 1600	not required	min. 490 min. 510	min. 30 min. 25	not required	not required
Typical values	AW 450	580	39	60	40

**PACKAGING AND AVAILABLE SIZES**

	Diameter (mm)	Length (mm)	Unit: carton box				
			1.5	2.0	2.5	3.2	4.0
Unit: carton box	Pieces / unit	250	300	350	350	350	350
	Net weight/unit (kg)	0.8	2.4	2.7	4.9	4.8	5.0
Unit: SRP	Pieces / unit	-	84	69	56	29	-
	Net weight/unit (kg)	-	0.9	1.4	1.8	1.5	-
Unit: Linc Can™	Pieces / unit	-	-	217	134	80	-
	Net weight/unit (kg)	-	-	4.7	4.4	4.2	-

Identification Imprint: 316L-16 / AROSTA 316 L Tip Color: pink

Arosta® 316L: rev. EN 23

# Arosta® 316L

## MATERIALS TO BE WELDED

Steel grades	EN 10088-1/-2	EN 10213-4	Mat. Nr	ASTM/AISI A240/A312/A351	UNS
<b>Extra low carbon (C &lt;0.03%)</b>					
	X2 CrNi 19 11		1.4306	(TP)304L CF-3	S30403 J92500
	X2 CrNiN 18 10		1.4311	(TP)304LN 302,304	S30453 S30400
<b>Medium carbon (C &gt;0.03%)</b>					
	X4 CrNi 18 10		1.4301	(TP)304	S30409
		GX5 CrNi 19 10	1.4308	CF 8	J92600
<b>Ti-, Nb stabilized</b>					
	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		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 weld- metal	
Diam. x length (mm)	B							kg electrodes/ kg weldmetal 1/N	
1.5 x 250	20 - 40	DC+	25	19	0.44	5.8	330	1.92	
2.0 x 300	30 - 50	DC+	42	44	0.58	10.7	150	1.61	
2.5 x 350	40 - 75	DC+	50	86	0.88	19.9	82	1.61	
3.2 x 350	60 - 110	DC+	57	157	1.3	32.9	49	1.61	
4.0 x 350	80 - 150	DC+	64	240	1.7	49.2	32	1.59	
5.0 x 350	140 - 220	DC+	67	396	2.6	77.1	20	1.59	

\*Stub end 35mm

## WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions					
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G	PF/5Gup
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			