

# Limarosta® 316L

EMR  
SAHARA®

SMAW

## CLASSIFICATION

AWS A5.4 : E316L-17  
ISO 3581-A : E 19 12 3 L R 12

## TEMPERATURE RANGE

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

## GENERAL DESCRIPTION

A rutile-basic all position stainless steel electrode for 316L or equivalent steels  
Molybdenum level min. 2.7 %  
Mirror like bead appearance  
Self releasing slag  
Good side wall fusion, no undercut  
High resistance to porosity  
Weldable on AC and DC  
Also available in vacuum sealed Sahara ReadyPack® (SRP)  
Arosta® 316L is recommended for welding root pass

## WELDING POSITIONS (ISO/ASME)



PA/1G



PB/2F



PC/2G



PF/3Gu



PE/4G



PH/5Gu

## CURRENT TYPE

AC / DC +/-

## APPROVALS

DNV	LR	RMRS	TÜV
316LH10	316L	316L	+

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

C	Mn	Si	Cr	Ni	Mo	FN [acc.WRC 1992]
0.02	0.8	1.0	18.0	11.5	2.8	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	-105°C
Required: AWS A5.4 ISO 3581-A Typical values	not required min. 320 450	min. 490 min. 510 580	min. 30 min. 25 40	not required not required 70	60	40

## PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	Length (mm)	1.5		2.0		2.5		3.2		4.0		5.0	
			250	300	350	350	450	450						
Unit: carton box	Pieces / unit		140	200	125	135	85	55						
	Net weight/unit (kg)		0.7	2.3	2.7	4.8	5.9	5.9						
Unit: SRP	Pieces / unit		-	57	65	52	28	22						
	Net weight/unit (kg)		-	0.6	1.5	1.8	2.0	2.4						
Unit: Linc Can™	Pieces / unit		-	-	47	28	-	-						
	Net weight/unit (kg)		-	-	1.0	1.0	-	-						
Unit: Linc Pack	Pieces / unit		-	-	202	124	79	-						
	Net weight/unit (kg)		-	-	4.4	4.3	5.3	-						

Identification Imprint: 316L-17 / LIMAROSTA 316 L Tip Color: pink

Limarosta® 316L: rev. EN 24

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.  
Fumes: Material Safety Data Sheets (MSDS) are available on our website.

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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>					
	X2CrNiMo17-12-2		1.4404	(TP)316L CF-3M	S31603 J92800
	X2CrNiMo18-14-3		1.4435	(TP)316L	S31603
	X2CrNiMoN17-11-2		1.4406	(TP)316LN	S31653
	X2CrNiMoN17-13-3		1.4429		
<b>Medium carbon [C &gt;0.03%]</b>					
	X4CrNiMo17-12-2		1.4401	(TP)316	S31600
	X4CrNiMo17-13-3		1.4436		
		GX5CrNiMo19-11	1.4408	CF 8M	J92900
<b>Ti-, Nb stabilized</b>					
	X6CrNiMoTi17-12-2		1.4571	316Ti	S31635
	X6CrNiMoNb17-12-2		1.4580	316Cb	S31640
	X6CrNiNb18-10		1.4550	(TP)347	S34700
		GX5CrNiNb19-10	1.4552	CF-8C	J92710

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## 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 weldmetal B	kg electrodes/ kg weldmetal 1/N
Diam. x length [mm]									
1.5 x 250	20-40								
2.0 x 300	35-50	DC+	39	49	0.59	11.4	155	1.79	
2.5 x 350	45-80	DC+	46	92	0.95	21.5	83	1.79	
3.2 x 350	80-115	DC+	51	157	1.5	35.3	48	1.69	
4.0 x 450	100-155	DC+	75	339	1.9	69.2	24	1.69	
5.0 x 450	150-220	DC+	85	577	2.7	107.8	16	1.69	

\*Stub end 35mm

## WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter [mm]	Welding positions					
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G	PH/5Gup
1.5	30A	35A	35A			
2.0	40A	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			
5.0	180A	180A				