

## CLASSIFICATION

AWS A5.4	E309L-17	A-Nr	8	Mat-Nr	1.4332
ISO 3581-A	E 23 12 L R 3 2	F-Nr	5		
		9606 FM	5		

## TEMPERATURE RANGE

Pressurized parts: -20...+300°C  
Oxidation resistance: n.a

## GENERAL DESCRIPTION

A rutile-basic all position CrNi over-alloyed buffer electrode  
Developed for welding stainless steel to mild steel and for clad steel  
Self releasing slag  
Excellent side wall wetting, no undercut, mirror like bead appearance  
High resistance to porosity  
Weldable on AC and DC+ polarity  
Also available in vacuum sealed Sahara ReadyPack® [SRP]

## WELDING POSITIONS (ISO/ASME)



PA/1G



PB/2F



PC/2G



PF/3Gu



PE/4G



PH/5Gu

## CURRENT TYPE

AC/DC +

## APPROVALS

DNV	GL	LR	RMRS	TÜV
309L	4432	SS/CMn	SS/CMn	+

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

C	Mn	Si	Cr	Ni	FN (acc.WRC 1992)
0.02	0.8	1.0	23.0	12.5	10-20

## 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
Required: AWS A5.4 ISO 3581-A Typical values	not required min. 320 480	min. 520 min. 510 560	min. 30 min. 25 40	not required not required 55	- 50

## PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	2.0	2.5	3.2	4.0	5.0
	Length (mm)	300	350	350	450	450
Carton + PE foil	Pieces / unit	200	125	135	85	55
	Net weight/unit (kg)	2.3	2.8	4.9	5.9	6.0
SRP	Pieces / unit	-	65	50	28	-
	Net weight/unit (kg)	-	1.5	1.8	2.0	-
Linc Can™	Pieces / unit	-	197	127	79	-
	Net weight/unit (kg)	-	4.4	4.5	5.4	-

Identification Imprint: 309L-17 / LIMAROSTA 309 S Tip Color: sea green

Limarosta 309S: rev. C-EN25-01/02/16

# Limarosta® 309S

## EXAMPLES OF MATERIALS TO BE WELDED

Steel grades	EN 10088-1/-2	Mat. Nr	ASTM/ACI A240/A312/A351	UNS
<b>Corrosion resistant cladsteels</b>				
	X2CrNi18-10	1.4311	(TP)304LN	S30453
	X2CrNi19-11	1.4306	(TP)304L	S30403
			CF-3	J92500
	X4CrNi18-10	1.4301	(TP)304	S30400

Dissimilar metals (mild and low alloy steel to CrNi or CrNiMo stainless steel)

Build-up welding on mild and low alloy steel

Bufferlayer CrNi-cladsteel

## CALCULATION DATA

Sizes		Current range (A)	Current type	Arc time	Energy	Dep. rate	Weight/ 1000 pcs (kg)	Electrodes/ kg weldmetal B	kg electrodes/ kg weldmetal 1/N
Diam. x length (mm)	[S]*			E(kJ)	H(kg/h)				
2.0 x 300	35-55	DC+	38	49	0.66	11.3	142	1.59	
2.5 x 350	45-80	DC+	48	95	0.99	22.1	77	1.69	
3.2 x 350	80-115	DC+	56	160	1.4	35.1	46	1.59	
4.0 x 350	100-155	DC+	76	317	2.0	69.9	23	1.64	
5.0 x 350	150-220	DC+	84	575	2.9	108.0	15	1.59	

\*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			
5.0	180A	180A				