

Limarosta® 309S

EMR
SAHARA®

SMAW

CLASSIFICATION

AWS A5.4 : E309L-17
ISO 3581-A : E 23 12 L R 32

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 ²)	Tensile strength (N/mm ²)	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	not required 50

PACKAGING AND AVAILABLE SIZES

		Diameter (mm)				
		2.0	2.5	3.2	4.0	5.0
	Length (mm)	300	350	350	450	450
Unit: carton box	Pieces / unit	200	125	135	85	55
	Net weight/unit (kg)	2.3	2.8	4.9	5.9	6.0
Unit: SRP	Pieces / unit	60	65	50	28	-
	Net weight/unit (kg)	0.6	1.5	1.8	2.0	-
Unit: 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. 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 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	Mat. Nr	ASTM/ACI A240/A312/A351	UNS
Corrosion resistant cladsteels				
	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

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	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				