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 1 2	**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)

PA/1G **PB/2F** **PC/2G** **PF/3Gu** **PE/4G** **PH/5Gu**

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/mm²)	Tensile strength (N/mm²)	Elongation (%)	Impact ISO-V(J) +20°C	Impact ISO-V(J) -20°C	Impact ISO-V(J) -196°C
Required: AWS A5.4		not required	min. 520	min. 35	not required		
ISO 3581-A		min. 320	min. 510	min. 30	not required		
Typical values	AW	440	580	43	70	60	24

PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	2.0	2.5	3.2	4.0	5.0
	Length (mm)	300	350	350	350	350
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

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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
Extra low carbon (C <0.03%)					
	X2CrNi19-11		1.4306	(TP)304L	S30403
				CF-3	J92500
	X2CrNiN18-10		1.4311	(TP)304LN	S30453
				302,304	S30400
Medium carbon (C >0.03%)					
	X4CrNi18-10		1.4301	(TP)304	S30409
		GX5CrNi19-10	1.4308	CF 8	J92600
Ti-, Nb stabilized					
	X6CrNiTi18-10		1.4541	(TP)321	S32100
				(TP)321H	S32109
	X6CrNiNb18-10		1.4550	(TP)347	S34700
				(TP)347H	S34709
		GX5CrNiNb19-10	1.4552	CF-8C	J92710

CALCULATION DATA

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