

CLASSIFICATION

AWS A5.4	E308L-16	A-Nr	8	Mat-Nr	1.4316
ISO 3581-A	E 19 9 L R 12	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/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Impact ISO-V(J)		
				+20°C	-20°C	-196°C
Required: AWS A5.4 ISO 3581-A	not required	min. 520	min. 35	not required		
Typical values	AW 440	580	43	70	60	24

PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	Length (mm)	Carton + PE foil			SRP	
			Pieces / unit	Net weight/unit (kg)	Pieces / unit	Net weight/unit (kg)	
	2.0	300	225	2.3	135	69	1.4
	2.5	350	135	2.6	150	56	1.9
	3.2	350	150	4.8	85	-	-
	4.0	350	85	4.9	65	-	-
	5.0	350	65	4.8			

Identification Imprint: 308L-16 / AROSTA 304L Tip Color: light blue

Arosta® 304L: rev. C-EN26-12/05/16

Arosta® 304L

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 CF-3	S30403 J92500
	X2CrNi18-10		1.4311	(TP)304LN 302,304	S30453 S30400
Medium carbon [C >0.03%]					
	X4CrNi18-10		1.4301 1.4308	(TP)304 CF 8	S30409 J92600
		GX5CrNi19-10			
Ti-, Nb stabilized					
	X6CrNiTi18-10		1.4541	(TP)321 (TP)321H	S32100 S32109
	X6CrNiNb18-10		1.4550	(TP)347 (TP)347H	S34700 S34709
		GX5CrNiNb19-10	1.4552	CF-8C	J92710

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	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