

CLASSIFICATION

AWS A5.4	E316L-15	A-Nr	8	Mat-Nr	1.4430
ISO 3581-A	E 19 12 3 L R 2 1	F-Nr	5		
		9606 FM	5		

TEMPERATURE RANGE

Pressurized parts : -60...+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 %
Specially developed for vertical down welding on DC
Root passes in grooves with root opening
High general corrosion resistance

WELDING POSITIONS (ISO/ASME)



PG/3Gd

CURRENT TYPE

AC/DC +

APPROVALS

ABS	BV	DNV	GL	LR	TÜV
+	316L	316L	4429	316L	+

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

C	Mn	Si	Cr	Ni	Mo	FN (acc.WRC 1992)
0.02	0.7	0.85	18.0	11.5	2.8	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	-60°C
Required: AWS A5.4 ISO 3581-A Typical values	not required min. 320 500	min. 490 min. 510 620	min. 30 min. 25 35	not required not required 50	45	35

PACKAGING AND AVAILABLE SIZES

Carton + PE foil	Diameter (mm)	2.5	3.2
	Length (mm)	300	300
Pieces / unit Net weight/unit (kg)	190	130	
	2.9	3.1	

Identification Imprint: 316L-15 / VERTAROSTA 316 L Tip Color: brown

Vertarosta® 316L: rev. C-EN24-01/02/16

Vertarosta® 316L

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%]					
	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		
Medium carbon [C >0.03%]					
	X4CrNiMo17-12-2		1.4401	(TP)316	S31600
	X4CrNiMo17-13-3		1.4436		
		GX5CrNiMo19-11	1.4408	CF 8M	J92900
Ti-, Nb stabilized					
	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

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)	- per electrode at max. current - (S)*			E(kJ)	H(kg/h)				
2.5 x 300	60-70	DC+	44	71	0.83	14.9	98	1.47	
3.2 x 300	80-110	DC+	47	118	1.3	23.9	59	1.41	

*Stub end 35mm

WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions PG/3Gdown
2.5	70A
3.2	100A