

Stainless steel electrode

Classification

AWS A5.4-92 : E316L-15
EN 1600-97 : E 19 12 3 L B 22

Temperature Range

pressure parts: -120...+350°C
oxidation resistance: n.a.

General description

Basic coated electrode for low temperature applications
Good impact properties down to -196°C
Good weldability and smooth bead appearance
Low carbon content
Service temperature up to 400°C
High resistance against general and intercrystalline corrosion

Welding positions



Current type

DC electr. +

Approvals

BV
316LBT

Chemical composition (w%), typical, all weld metal

C	Mn	Si	Cr	Ni	Mo	FN
0.025	1.6	0.4	18.5	11.0	2.7	4-10

Mechanical properties, all weld metal

Condition	0.2% Proof strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Impact ISO-V(J)	
				+20°C	-196°C
Required: AWS A5.4-92	not required	min. 490	min. 30	not required	
EN 1600-97	min. 320	min. 510	min. 25	not required	
Typical values	AW 450	650	35	100	35

Packaging, available sizes and identification

Diameter (mm)	2.5	3.2	4.0	
Length (mm)	350	350	350	
Unit: Box	Pieces / unit (nominal)	135	150	100
	Net weight/unit (kg)	2.7	4.8	4.8

Identification

Imprint: 316L-15/Jungo 316L

Tip colour: red

Jungo® 316L: rev. EN 15

Materials to be welded

Steel grades	EN 10088-1/-2	EN 102 13-4	W.Nr.	ASTM/ACI A240/A312/A351	UNS
Extra low carbon C <0.03%	X2 CrNiMo 17-12-2		1.4404	(TP)316L CF-3M	S31603 J92800
	X2 CrNiMo 18-14-3		1.4435	(TP)316L	S31603
	X2 CrNiMoN 17-11-2		1.4406	(TP)316LN	S31653
	X2 CrNiMoN 17-13-3		1.4429		
Medium carbon C >0.03%	X4 CrNiMo 17-12-2		1.4401	(TP)316	S31600
	X4 CrNiMo 17-13-3		1.4436		
Ti-, Nb stabilized		GX5 CrNiMo 19-11	1.4408	CF 8M	J92900
	X6 CrNiMoTi 17-12-2		1.4571	316Ti	S31635
	X6 CrNiMoNb 17-12-2		1.4580	316Cb	S31640
	X6 CrNiNb 18-10		1.4550	(TP)347	S34700
		GX5 CrNiNb 19-10	1.4552	CF-8C	J92710

Calculation data

Sizes Diam. x length (mm)	Current range type (A)	Current	Arc time - per electrode at max. current - (s)*	Energy E(kJ)	Dep.rate H(kg/h)	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal B	kg Electrodes/ kg weldmetal 1/N
2.5 x 350	50 - 70	DC+	50	86	0.82	19.2	88	1.89
3.2 x 350	60 - 90	DC+	51	135	1.3	31.3	53	1.72
4.0 x 350	80 - 120	DC+	66	206	1.7	47.6	32	1.56

* stub end 35mm

Welding parameters, optimum fill passes

Welding positions Diameter (mm)	PA/1G Current (A)	PB/2F	PC/2G	PF/3G up	PE/4G	PF/5G up
2.5	60	60	60	60	60	60
3.2	95	90	90	75	75	75
4.0	125	110	125	100	100	100