

## Classifications

<b>EN ISO 3581-A</b>	<b>AWS A5.4 / SFA-5.4</b>
E 19 12 3 L B 2 2	E316L-15

## Characteristics and typical fields of application

Basic electrode, core wire alloyed electrode of E 19 12 3 L B / E316L-15 type. Primarily used for 1.4404 and 1.4435 / 316L austenitic steel grades. Reliable toughness values down to  $-196^{\circ}\text{C}$ . Good gap bridging ability and excellent X-ray safety. Good welding characteristics in all positions except vertical-down with easy weld pool and slag control. Easy slag removal even in narrow joint preparations result in clean bead surfaces with minimum post weld cleaning. Max. service temperature  $400^{\circ}\text{C}$ .

## Base materials

1.4401 X5CrNiMo17-12-2, 1.4404 X2CrNiMo17-12-2, 1.4409 GX2CrNiMo19-11-2, 1.4429 X2CrNiMoN17-12-3, 1.4432 X2CrNiMo17-12-3, 1.4435 X2CrNiMo18-14-3, 1.4436 X3CrNiMo17-12-3, 1.4571 X6CrNiMoTi17-12-2, 1.4580 X6CrNiMoNb17-12-2 1.4583 X10CrNiMoNb18-12

UNS S31600, S31603, S31635, S31640, S31653

AISI 316L, 316Ti, 316Cb

## Typical analysis


	C	Si	Mn	Cr	Ni	Mo
wt.-%	0.03	0.4	1.2	18.8	11.8	2.7

## Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength	Tensile strength	Elongation A	Impact energy ISO-V KV J			Hardness
	$R_{p0.2}$	$R_m$	$(L_0=5d_0)$	20°C	$-120^{\circ}\text{C}$	$-196^{\circ}\text{C}$	
u	MPa 450 ( $\geq 320$ )	MPa 590 ( $\geq 510$ )	% 42 ( $\geq 25$ )	130	62	38 ( $\geq 32$ )	220

u untreated, as-welded

## Operating data

	Polarity	DC+	Dimension mm	Current A
	Electrode identification	FOX EAS 4 M 316L-15 E 19 12 3 L B	2.5 × 300	50 – 80
		3.2 × 350	80 – 110	
		4.0 × 350	110 – 140	
		5.0 × 450	140 – 180	

Suggested heat input is max. 2.0 kJ/mm and interpass temperature max.  $150^{\circ}\text{C}$ .

## Approvals

TÜV (00772), DNV, CE