

**Classifications**

<b>EN ISO 3581-A</b>	<b>AWS A5.4 / SFA-5.4</b>
E 19 9 Nb B 2 2	E347-15

**Characteristics and typical fields of application**

Basic coated stabilized electrode of E 19 9 Nb B / E347-15 type. Mainly for welding titanium and niobium-stabilized 1.4541 / 321 and 1.4546 / 347 austenitic stainless steel grades. Designed to produce first class weld deposits with reliable CVN impact 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 as well as easy slag removal. Clean bead surfaces and minimum post-weld cleaning. An excellent electrode for welding on site and for heavy and rigid components. Max. service temperature  $400^{\circ}\text{C}$ .

**Base materials**

1.4301 X5CrNi18-10, 1.4306 X2CrNi19-11, 1.4311 X2CrNi18-9, 1.4312 GX10CrNi18-8, 1.4541 X6CrNiTi18-10, 1.4546 X5CrNiNb18-10, 1.4550 X6CrNiNb18-10, 1.4552 GX5CrNiNb19-11  
 UNS S30400, S30403, S30453, S32100, S34700  
 AISI 347, 321,302, 304, 304L, 304LN

**Typical analysis**

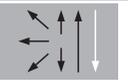
	C	Si	Mn	Cr	Ni	Nb
wt.-%	0.03	0.4	1.3	19.8	10.2	0.42

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

Condition	Yield strength $R_{p0.2}$	Tensile strength $R_m$	Elongation A ( $L_0=5d_0$ )	Impact energy ISO-V KV J	
	MPa	MPa	%	$20^{\circ}\text{C}$	$-196^{\circ}\text{C}$
u	460 ( $\geq 350$ )	615 ( $\geq 550$ )	40 ( $\geq 25$ )	120	38 ( $\geq 32$ )

u untreated, as-welded

**Operating data**

	<b>Polarity</b>	DC+	<b>Dimension mm</b>	<b>Current A</b>
	<b>Electrode identification</b>	FOX SAS 2 347-15 E 19 9 Nb B	2.5 × 300	50 – 80
			3.2 × 350	80 – 110
			4.0 × 350	110 – 140

Suggested heat input is max. 1.5 kJ/mm and interpass temperature max.  $150^{\circ}\text{C}$ .

Generally no heat treatment needed.

BÖHLER FOX SAS 2 can be used for cladding, which normally requires stress relieving at approximately  $590^{\circ}\text{C}$ . Such a heat treatment will lower the ductility at room temperature. BÖHLER FOX E 347 H may be an alternative in this case.

**Approvals**

TÜV (01282), DB (30.014.04), ABS, DNV, CE