

Classifications

EN ISO 3581-A	AWS A5.4 / SFA-5.4
E 18 16 5 N L B 2 2	E317L-15 (mod.)

Characteristics and typical fields of application

Basic coated fully austenitic electrode of E 18 16 5 N L B type for welding corrosion resistant CrNiMo-steels such as 1.4439 / 317L. Well-suited for difficult corrosion conditions encountered e.g. in the chemical industry, flue gas desulfurization, seawater desalination and particularly in the pulp & paper and textile industry. Over-alloyed in molybdenum (4.5%) to compensate segregation and ensure good corrosion properties when welding base metals with 3 – 4% Mo. Excellent resistance to stress corrosion cracking as well as high pitting resistance. Service temperature from –269°C to 300°C. The electrode provides easy slag removal with smooth and clean bead surfaces as well as good weldability out of position.

Base materials

1.4436 X3CrNiMo17-13-3, 1.4439 X2CrNiMoN17-13-5, 1.4429 X2CrNiMoN17-13-3, 1.4438 X2CrNiMo18-15-4, 1.4583 X10CrNiMoNb18-12
 AISI 316Cb, 316LN, 317LN, 317L
 UNS S31726

Typical analysis


	C	Si	Mn	Cr	Ni	Mo	Nb	FN
wt.-%	≤ 0.04	0.5	2.5	18.5	17	4.3	0.17	≤ 0.5

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

Condition	Yield strength	Tensile strength	Elongation A	Impact energy ISO-V KV J		
	R _{p0.2}	R _m	(L ₀ =5d ₀)	20°C	–196°C	–269°C
	MPa	MPa	%			
u	450 (≥ 300)	650 (≥ 520)	36 (≥ 30)	120	52	42 (≥ 32)

u untreated, as-welded

Operating data

	Polarity	DC+	Dimension mm	Current A
	Electrode identification	FOX ASN 5 E 18 16 5 N L 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°C.

Maximum width of weaving should be limited to twice the core diameter of the electrode. The arc should be kept short.

Post-weld heat treatment generally not needed. In special cases, solution annealing can be performed at 1080 – 1130°C followed by water quenching.

For TIG root welding Thermanit 18/17 E Mn is recommended.

Approvals

TÜV (00016)