

**Classifications**

<b>EN ISO 3581-A</b>	<b>AWS A5.4 / SFA-5.4</b>
E 18 16 5 N L R 3 2	E317L-17 (mod.)

**Characteristics and typical fields of application**

Rutile coated core wire alloyed electrode of E 18 16 5 N L R 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 pitting corrosion. Service temperature from –120°C to 400°C. Good operating characteristics on AC and DC, minimum spatter formation, self-releasing slag with smooth and clean bead surface.

**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

**Typical analysis**


	C	Si	Mn	Cr	Ni	Mo	N	FN
wt.-%	0.025	0.7	1.2	18	17	4.5	0.13	≤ 0.5

**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°C	–120°C
u	460 (≥ 300)	660 (≥ 520)	32 (≥ 30)	70	47 (≥ 32)

u untreated, as-welded

**Operating data**

	<b>Polarity</b>	DC+ / AC	<b>Dimension mm</b>	<b>Current A</b>
	<b>Electrode identification</b>	FOX ASN 5-A E 18 16 5 N L R	2.5 × 300	65 – 85
			3.2 × 350	90 – 120
			4.0 × 350	110 – 150

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 and the arc 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.

Re-drying at 300 – 350°C for min. 2 h if necessary.

**Approvals**

TÜV (07118), CE