BÖHLER FOX ASN 5-A

Covered electrode, high-alloyed, austenitic stainless

Classifications

EN ISO 3581-A	AWS A5.4 / SFA-5.4
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

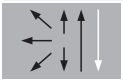
	C	Si	Mn	Cr	Ni	Mo	N	FN
wt.-%	0.025	0.7	1.2	18	17	4.5	0.13	≤ 0.5

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



Polarity	DC+ / AC
Electrode identification	FOX ASN 5-A E 18 16 5 N L R
Redrying	120 – 200°C, min. 2 h

Dimension mm	Current A
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.

Approvals

TÜV (07118), CE