

Classifications

EN ISO 3581-A	AWS A5.4
E 20 25 5 Cu N L R 3 2	E385-17 (mod.)

Characteristics and typical fields of application

Rutile-basic electrode, core wire alloyed, with extremely high Mo-content. Very high pitting resistant equivalent ($PRE_N \geq 45$) – pitting potential ($\%Cr + 3.3 \times \% Mo + 30 \times \%N$). Particularly recommended for steels containing up to 5% molybdenum. The above average molybdenum content (6.2 %) is characteristic to BÖHLER FOX CN 20/25 M-A, thus compensating for segregation in high molybdenum alloyed weld metals.

Special applicable in Sulphur- and Phosphorus production, pulp and paper industry, flue gas desulphurisation plants, further on for fertilizer production, petrochemical industry, fatty-, acetic- and formic acid production, sea water sludge fittings and pickling plants which are proceeded with sea or brackish water.

The fully austenitic weld metal possesses a marked resistance towards pitting and crevice corrosion in chloride containing media. Highly resistant against sulphur-, phosphorus-, acetic- and formic acid, as well as sea and brackish water. Caused from the low C-content of the weld metal, the risk of intergranular corrosion can be avoided. The high Ni-content in comparison to standard CrNi-weld metals leads to high resistance against stress corrosion cracking.

BÖHLER FOX CN 20/25 M-A possess excellent operating characteristic in all positions, except vertical down and easy handling. The weld metal shows good slag detachability as well as smooth, fine rippled beads with no residuals. This electrode should be preferably used up to wall thicknesses of 14 mm. It is designed for excellent operating characteristics on DC and AC. It is advisable to grind out the end craters of root passes.

Base materials

Same-alloyed high-Mo Cr-Ni-steels

1.4539 X1NiCrMoCu25-20-5, 1.4439 X2CrNiMoN17-13-5, 1.4537 X1CrNiMoCuN25-25-5
UNS N08904, S31726

Typical analysis of all-weld metal (wt.-%)

	C	Si	Mn	Cr	Ni	Mo	Cu	N		PRE_N
wt-%	0.03	0.7	1.7	20.3	25.0	6.2	1.5	0.17		≥ 45

Mechanical properties of all-weld metal

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A ($L_0=5d_0$)	Impact work ISO-V KV J	
	MPa	MPa	%	+20 °C	-196 °C
u	410 (≥ 320)	640 (≥ 510)	34 (≥ 25)	70	≥ 32

u untreated, as welded

Operating data

	Polarity:	Redrying if necessary:	Electrode identification:	\varnothing (mm)	L mm	Amps A
	DC (+)	250 – 300 °C, min. 2 h	FOX CN 20/25 M-A	2.5	300	50 – 80
	AC		E 20 25 5 Cu N L R	3.2	350	80 – 110
				4.0	350	100 – 135

Approvals

TÜV (6634.), SEPROZ, CE