

Classifications

EN ISO 3581-A	AWS A5.4 / SFA-5.4
E 20 25 5 Cu N L B 2 2	E385-15 (mod.)

Characteristics and typical fields of application

Basic-rutile, core wire alloyed electrode of E 20 25 5 Cu N L B / E385-15 (mod.) for molybdenum-alloyed austenitic stainless steels. Used in highly corrosive environments encountered in e.g. sulfur and phosphorus production, pulp & paper industry, flue gas desulfurization plants; desalination plants, fertilizer production and petrochemical industry; acetic and formic acid production, in pickling plants as well as heat exchangers and power plants using brackish or seawater. Very high pitting resistance equivalent (PREN ≥ 44). Over-alloyed in molybdenum (6.3 wt.-%) to compensate weld metal segregation and improve local corrosion resistance. The fully austenitic weld metal possesses high resistance to pitting and crevice corrosion in chloride containing media. Low C-content makes the weld metal resistant to intergranular corrosion and high Ni-content results in high resistance to stress corrosion cracking.

Base materials

1.4505 X4NiCrMoCuNb20-18-2, 1.4506 X5NiCrMoCuTi20-18, 1.4537 X1CrNiMoCuN25-25-5, 1.4538 X2NiCrMoCuN20-18, 1.4539 X1NiCrMoCu25-20-5, 1.4586 X5NiCrMoCuNb22-18
UNS S31726, S08904, N08904
AISI 904L

Typical analysis

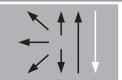
	C	Si	Mn	Cr	Ni	Mo	N	Cu	PRE _n
wt.-%	≤ 0.04	0.4	3.8	20.0	25.0	6.3	0.14	1.4	≥ 44

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)			
	MPa	MPa	%	20°C	-196°C	-269°C
u	450 (≥ 320)	660 (≥ 510)	35 (≥ 25)	80	40	(≥ 32)

u untreated, as-welded

Operating data

	Polarity	DC+	Dimension mm	Current A
	Electrode identification	FOX CN 20/25 M E 20 25 5 Cu N L B	2.5 × 300	60 – 80
			3.2 × 350	80 – 100
			4.0 × 350	100 – 130

Suggested heat input is max. 1.5 kJ/mm and interpass temperature max. 150°C.

Preheating and post-weld heat treatment generally not needed.

Avoid weaving more than two times the core wire diameter during welding. Keep the arc short and grind out root pass end craters.

TIG welding can be used for the root pass using Thermit 20/25 Cu.

Approvals

TÜV (04882), CE