BÖHLER FOX CN 22/9 N

Covered electrode, high-alloyed, duplex stainless

Classifications

EN ISO 3581-A	AWS A5.4 / SFA-5.4
E 22 9 3 N L R 3 2	E2209-17

Characteristics and typical fields of application

Rutile core wire alloyed electrode of E 22 9 3 N L R / E2209-17 type. Designed for welding duplex steels such as 1.4462 / UNS 31803 and S32205. Field of applications are in offshore engineering and in the chemical industry. Good weldability in all welding positions. Very good resistance to pitting and stress corrosion cracking in chloride containing environments. Good wetting characteristics, slag detachability and high resistance to porosity. Reliable impact toughness down to –20ºC. For a wall thickness above 20 mm or impact requirements down to –60ºC, a basic electrode such as BÖHLER FOX CN 22/9 N-B would be preferred.

Base materials

1.4462 X2CrNiMoN22-5-3, 1.4362 X2CrNiN23-4, 1.4162 X2CrNiMoN21-5-1
UNS S32205, S31803, S32304, S32101
2205, 2304, LDX 2101®, SAF 2205, SAF 2304
Can also be used for dissimilar welding of duplex alloys to carbon steel and standard austenitics

Typical analysis

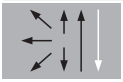
	C	Si	Mn	Cr	Ni	Mo	N	PRE_N	FN
wt.-%	0.02	0.8	0.9	22.6	9.0	3.1	0.17	≥ 35	30 – 60

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	–40°C
u	650 (≥ 450)	850 (≥ 690)	27 (≥ 20)	50	35 (≥ 32)

u untreated, as-welded

Operating data



Polarity	DC / AC
Electrode identification	FOX CN 22/9 N 2209-17 E 22 9 3 N L R

Dimension mm	Current A
2.5 × 350	40 – 75
3.2 × 350	70 – 120
4.0 × 350	110 – 150
5.0 × 450	150 – 200

Suggested heat input is 0.5 – 2.5 kJ/mm and interpass temperature max. 150ºC.
Post-weld heat treatment generally not needed. In special cases, solution annealing can be performed at 1100 – 1150ºC followed by water quenching.
Redrying if necessary at 250 – 300ºC for min. 2 h.

Approvals

TÜV (03636), ABS, DNV, LR, RINA, CE