BÖHLER FOX CN 22/9 N-B

Covered electrode, high-alloyed, duplex stainless

Classifications

EN ISO 3581-A	AWS A5.4 / SFA-5.4
E 22 9 3 N L B 2 2	E2209-15

Characteristics and typical fields of application

Basic coated, core wire alloyed electrode of E 22 9 3 N L B / E2209-15 type for welding of duplex stainless steels such as 1.4462 / UNS S31803 and S32205. Specially designed for the joining of thick-walled sections (e.g. > 20 mm) and rigid constructions as well as for applications where extra low service temperature requirements exist (down to -50ºC). The weld metal meets the corrosion test requirements per ASTM G48 Methods A, B and E (25ºC) and shows high resistance to stress corrosion cracking. The electrode provides user-friendly operating characteristics in all positions except vertical down with good slag removability and weld bead appearance. Additionally the filler metals offer high safety against formation of porosity. Ferrite measured with FeritScope FMP30 34 – 36 FN. Suitable for service temperatures from –50ºC to 250ºC.

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

Typical analysis

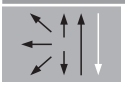
	C	Si	Mn	Cr	Ni	Mo	N	PRE_N
wt.-%	0.03	0.3	1.1	22.6	8.8	3.1	0.16	≥ 35

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	–50°C
u	630 (≥ 450)	830 (≥ 690)	30 (≥ 20)	100	65 (≥ 32)

u untreated, as welded

Operating data



Polarity	DC+
Electrode identification	FOX CN 22/9 N-B 2209-15 E 22 9 3 N L B

Dimension mm	Current A
2.5 × 350	50 – 75
3.2 × 350	80 – 110
4.0 × 350	100 – 145
5.0 × 450	140 – 180

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.
For welding of root runs, the BÖHLER FOX 22/9 N covered electrodes or Thermanit 22/09 solid wire and rods may be preferred.
Re-drying of the electrode possible at 250 – 300ºC for min. 2 h if necessary.

Approvals

TÜV (07084), CE