

Classifications

EN ISO 3581-A	EN ISO 3581-B	AWS A5.4
E 22 9 3 N L R 3 2	ES2209-17	E2209-17

Characteristics and typical fields of application

Rutile coated electrode, designed for ferritic-austenitic duplex steels such as EN 1.4462, UNS 31803. Field of applications are, for instance, in desalination and in the chemical industry. Besides offering high mechanical strength and toughness, the weld metal is also noted for excellent resistance to pitting and stress corrosion cracking. Excellent weldability in all positions, and perfectly suited for pipe welding. Good wetting characteristics, slag removal, resistance to porosity and reliable CVN toughness down to -20 °C . Designed with a fully alloyed core wire providing best corrosion resistance, ferrite contents of 30 – 60 FN (WRC) and a pitting resistance equivalent (PRE_N) of > 35 .

For wall thicknesses above 20 mm or impact requirements down to -60 °C the basic coated electrode BÖHLER FOX CN 22/9 N-B is recommended.

Base materials

Duplex and lean duplex alloys, as well as dissimilar welding for joints with higher tensile strength 1.4462 X2CrNiMoN22-5-3, 1.4362 X2CrNiN23-4, 1.4462 X2CrNiMoN22-5-3 together with 1.4583 X10CrNiMoNb18-12, 1.4462 X2CrNiMoN22-5-3 together with P235GH/ P265GH, S255N, P295GH, S355N, 16Mo3
UNS S31803, S32205

Typical analysis of all-weld metal

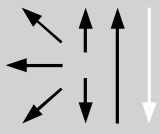
	C	Si	Mn	Cr	Ni	Mo	N	PRE_N
wt-%	≤ 0.03	0.8	0.9	22.6	9.0	3.1	0.17	≥ 35

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 toughness ISO-V KV J		
	MPa	MPa	%	20 °C	-10 °C	-20 °C
u	650 (≥ 450)	820 (≥ 690)	25 (≥ 20)	55	50	≥ 32

u untreated, as-welded

Operating data

	Polarity:	Re-drying:	Electrode identification:	\varnothing mm	L mm	Current A
	DC (+)	if necessary	FOX CN 22/9 N	2.5	300	40 – 75
DC (-)	120 – 200 °C,	2209-17	3.2	350	70 – 120	
AC	min. 2 h	E 22 9 3 N L R	4.0	350	110 – 150	
			5.0	450	150 – 200	

Preheating and interpass temperature max. 150 °C. In case of solution annealing e.g. cast iron, an interpass temperature of 250 °C is acceptable. Heat input according to wall thickness.

Approvals

TÜV (03636.), ABS, DNV GL, LR, RINA, CE