AVESTA 2205

Covered electrode, high-alloyed, duplex stainless

Classifications

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

Characteristics and typical fields of application

Rutile coated electrode of E 22 9 3 N L R / E2209-17 type. Primarily designed for welding 22Cr duplex stainless steels such as 1.4462 / UNS 31803 used in offshore, shipyards, chemical tankers, chemical/petrochemical, pulp & paper, etc. Good weldability in all welding positions. Very good resistance to pitting and stress corrosion cracking in chloride containing environments. Good wettability and slag detachability result in smooth and clean welds.

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

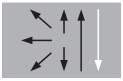
	C	Si	Mn	Cr	Ni	Mo	N	PRE_N
wt.-%	0.02	0.8	0.7	22.6	9.4	3.0	0.16	≥ 35

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		Hardness
	MPa	MPa	%	20°C	–40°C	HB
u	620 (≥ 450)	810 (≥ 690)	25 (≥ 20)	45	40 (≥ 32)	240

u untreated, as-welded

Operating data



Polarity	DC+
Electrode identification	2209-17/2205

Dimension mm	Current A
2.5 × 350	45 – 80
3.2 × 350	70 – 120
4.0 × 450	90 – 160
5.0 × 450	150 – 220

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.
Metal recovery approximately 110%.

Approvals

TÜV (07139), DB (10.014.20), CE