Avesta 2205 Basic

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. Primarily designed for welding 22Cr duplex stainless steels used in offshore, shipyards, chemical tankers, chemical/petrochemical, pulp & paper, etc. For improved impact toughness welding in all positions except vertical down. Very good resistance to pitting and stress corrosion cracking in chloride containing environments. Ferrite measured with ASTM E 562: 40 – 50%.

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

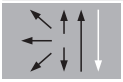
	C	Si	Mn	Cr	Ni	Mo	N	PRE_N	FN
wt.-%	0.03	0.6	1.2	22.8	8.9	3.1	0.16	≥ 35	40

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	Lateral expansion mm
	MPa	MPa	%	20°C	–46°C	HB	–46°C
u	620 (≥ 450)	820 (≥ 690)	30 (≥ 20)	100	65	250	0.80

u untreated, as-welded

Operating data



Polarity	DC+
Electrode identification	2205-15/2205 BAS

Dimension mm	Current A
2.5 × 300	50 – 70
3.2 × 350	70 – 110
4.0 × 350	100 – 140
4.0 x 450	100 - 140

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

CE