Avesta 2205

TIG rod, high-alloyed, high corrosion resistant

www.perezyperez.es

Classification

EN ISO 14343-A	EN ISO 14343-B	AWS A5.9
W 22 9 3 N L	SS2209	ER2209

Characteristics and typical fields of application

Avesta 2205 is primarily designed for welding the duplex grade Outokumpu 2205 and similar but it can also be used for SAF 2304 type of steels. Avesta 2205 provides a ferritic-austenitic weldment that combines many of the good properties of both ferritic and austenitic stainless steels. Welding without filler metal (i.e. TIG-dressing) is not allowed since the ferrite content will increase drastically and both mechanical and corrosion properties will be negatively affected.

Structure: Austenite with 45 – 55 % ferrite.

Scaling temperature: Approx. 850 °C (air).

Corrosion resistance:

Very good resistance to pitting and stress corrosion cracking in chloride containing environments.

Base materials

Similar duplex stainless steels, also combinations of duplex, ferritic and austenitic steels

1.4462 X2CrNiMoN22-5-3, 1.4362 X2CrNiN23-4,
1.4462 X2CrNiMoN22-5-3 with 1.4583 X10CrNiMoNb18-12,
1.4462 X2CrNiMoN22-5-3 with P235GH/ P265GH, S255N, P295GH, S355N, 16Mo3

UNS S31803, S32205

Typical analysis of the solid wire (wt.-%)

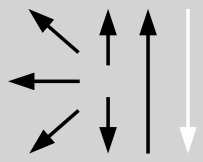
	C	Si	Mn	Cr	Ni	Mo	N	PRE_N
wt.-%	≤ 0.015	0.4	1.7	22.5	8.8	3.2	0.15	≥ 35

Mechanical properties of all-weld-metal

Heat treatment	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation (L_0=5d_0)	Impact work ISO-V KV J	
	MPa	MPa	%	+20 °C	– 60 °C
u	600 (⩾ 45	800 (≥ 550)	33 (⩾ 20)	150	≥ 32

u untreated, as welded – Shielding gas Ar

Operating data



Polarity:	Shielding gas:	ø (mm)
DC (–)	100% Ar	1.6
	Ar + 1 – 2 % N_2	2.0
	Gas flow rate 4 – 8 l/min	2.4
		3.2

Heat treatment: Generally none (in special cases quench annealing at 1100 – 1150 °C).

Interpass temperature: max. 150 °C.

Heat input: 0.5 – 2.5 kJ/mm.

Approvals

TÜV, DB, DNV, CE