Avesta 2205

Solid Wire

Classifications **h**igh-alloyed

EN ISO 14343-A:	AWS A5.9:	
G 22 9 3 N L	ER2209	

Characteristics and field of use

Avesta 2205 is primarily designed for welding the duplex grade Outokumpu 2205 and similar but it can also be used for 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. The welding can be performed using short, spray or pulsed arc. Welding using pulsed arc provides good results in both horizontal and vertical-up positions. The best flexibility is achieved by using pulsed arc and Ø 1.20 mm wire. The weldability of duplex steels is excellent, but the welding should be adapted to the base material, considering fluidity, joint design, heat input etc.
Corrosion resistance
Very good resistance to pitting and stress corrosion cracking in chloride containing environments. PREN>35. Meets the corrosion test requirements per ASTM G48 Methods A, B and E (22°C).

Base materials

For welding steels such as					
Outokumpu	EN	ASTM	BS	NF	SS
2205	1.4462	S32205	318S13	Z3 CND 22-05 Az	2377

Typical composition of solid wire (Wt-%)

C	Si	Mn	Cr	Ni	Mo	N
0.02	0.5	1.6	22.8	8.5	3.1	0.17

Ferrite 50 FN; WRC-92

Mechanical properties of all-weld metal

Heat Treatment	*Yield strength 0.2%*	*Tensile strength*	*Elongation (L_0=5d_0)*	*Impact values in J CVN*	
	MPa	*MPa*	*%*	*+20°C:*	*-50°C:*
untreated	560	780	30	150	100

Operating data

Polarity = +

Shielding gas:
1. Ar + 30% He + 2.5% CO_2
2. Ar + 2% O2 or Ar + 2–3% CO_2.

Welding is best performed using argon with an addition of approx. 30% He and 2 – 3% CO_2. The addition of helium (He), will increase the energy of the arc.
Gas flow rate 12 – 16 l/min.

Dimensions (mm)

0.8	*1.0*	*1.2*	*1.6*