

2205

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

Standard designations

EN ISO 14343 W 22 9 3 N L
AWS A5.9 ER2209

Characteristics and welding directions

AVESTA 2205 is primarily designed for welding the duplex grade Outokumpu 2205 and similar grades but can also be used for welding 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.

Welding data

Diameter, mm	Current, A	Voltage, V
1.20	60 – 80	9 – 11
1.60	80 – 110	10 – 12
2.00	100 – 130	14 – 16
2.40	130 – 160	16 – 18
3.20	160 – 200	17 – 19

Shielding gas

Ar (99.95%). Ar with an addition of up to 2% nitrogen (N₂) is advantageous and will have a positive effect on both mechanical and corrosion properties.

Gas flow rate 4 – 8 l/min.

Chemical composition, wire (typical values, %)

C	Si	Mn	Cr	Ni	Mo	N
0.02	0.50	1.6	23.0	8.5	3.1	0.17

Ferrite 50 FN WRC-92

Mechanical properties

	Typical values (IIW)	Min. values EN ISO 14343
Yield strength R _{p0,2}	610 N/mm ²	450 N/mm ²
Tensile strength R _m	805 N/mm ²	550 N/mm ²
Elongation A ₅	31 %	20 %
Impact strength KV		
+20°C	200 J	
-40°C	170 J	

Interpass temperature: Max. 150°C.

Heat input: 0.5 – 2.5 kJ/mm.

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

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.

Approvals

• CE • DB • DNV • TÜV