Avesta Welding

2507/P100

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
SAF 2507®	1.4410	S32750	–	Z3 CND 25-06 Az	2328

Standard designations

EN ISO 14343 G 25 9 4 L N
AWS A5.9 ER2594

Characteristics and welding directions

AVESTA 2507/P100 is intended for welding super duplex alloys such as SAF 2507, ASTM S32760, S32550 and S31260.

Welding 2507/P100 is preferably done using pulsed arc.

Welding data

	Diameter mm	Current A	Voltage V
Short arc	0.80	60 – 100	18 – 20
Spray arc	1.00	180 – 220	24 – 28
	1.20	200 – 240	25 – 29
Pulsed arc	1.20	I_{peak} = 450 – 550 A I_{bkg} = 150 – 200 A Freq = 120 – 150 Hz	

Shielding gas

MIG 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.

Chemical composition, wire (typical values, %)

C	Si	Mn	Cr	Ni	Mo	N
0.02	0.35	0.4	25.0	9.5	4.0	0.25

Ferrite 50 FN WRC-92

Mechanical properties	Typical values (IIW)	Min. values EN ISO 14343
Yield strength $R_{p0,2}$	570 N/mm^2	550 N/mm^2
Tensile strength R_m	830 N/mm^2	620 N/mm^2
Elongation A_5	29 %	18 %
Impact strength KV		
+20°C	140 J	
Hardness	280 Brinell	

Interpass temperature: Max. 100°C.

Heat input: 0.5 – 1.5 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. Pitting resistance is in accordance with ASTM G48-A, better than 40°C.

Approvals

–