

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 W 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. It can also be used for welding duplex type 2205 if extra high corrosion resistance is required, e.g. in root runs in tubes.

AVESTA 2507/P100 provides a ferritic-austenitic weldment that combines many of the good properties of both ferritic and austenitic 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	0.35	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}	660 N/mm ²	550 N/mm ²
Tensile strength R _m	860 N/mm ²	620 N/mm ²
Elongation A ₅	28 %	18 %
Impact strength KV		
+20°C	190 J	
-40°C	170 J	

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: Excellent 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

- CE
- TÜV