

2507/P100 rutile

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 1600 E 25 9 4 N L R
AWS A5.4 E2594-16

Characteristics

AVESTA 2507/P100 rutile-acid electrodes give a high-alloy, duplex weld metal. They are suitable for super duplex steels such as SAF 2507, ASTM S32750, ASTM S32760 and similar. Heat inputs should be generally lower than those used for 2205. However, the somewhat reduced fluidity and penetration (compared to ordinary austenitic stainless steels) must be taken into consideration. To prevent excessive ferrite, or the formation of intermetallic phases, very high quench rates and excessive times at red heat or above should be avoided.

Welding data

DC+	Diam. mm	Current, A
	2.5	50 – 70
	3.25	80 – 100
	4.0	100 – 140

Weld deposit data at maximum welding current

Electrode diam. mm	length mm					Metal recov. ~ %
		N	B	H	T	
2.5	300	0.58	93	0.77	50	107
3.25	350	0.64	46	1.30	59	108
4.0	350	0.68	30	1.88	64	110

Typical analysis % (All weld metal)

C	Si	Mn	Cr	Ni	Mo	N
0.03	0.5	1.3	25.5	10.0	3.6	0.23
Ferrite 30 FN WRC-92						

Mechanical properties

	Typical values (IIW)	Min. values EN 1600
Yield strength $R_{p0.2}$	700 N/mm ²	550 N/mm ²
Tensile strength R_m	900 N/mm ²	620 N/mm ²
Elongation A_5	26 %	18 %
Impact strength KV		
+20°C	80 J	
-40°C	55 J	
Hardness approx.	250 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 approx. 30% ferrite.

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

Corrosion resistance: Very good resistance to pitting and stress corrosion cracking in chloride containing environments. Pitting resistance in accordance with ASTM G48-A better than 40°C.

Approvals

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Welding positions

