

Classifications

high-alloyed

EN ISO 14343-A:	AWS A5.9:		
W 25 9 4 N L	ER2594		

Characteristics and field of use

Avesta 2507/P100 is intended for welding super duplex alloys such as 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. Welding without filler metal (TIG dressing) is not allowed since the ferrite content will increase drastically which will have a negative effect on both mechanical and corrosion properties. The weldability of duplex and super 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>41.5. Meets the corrosion test requirements per ASTM G48 Methods A, B and E (40°C).

Base materials

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

Typical composition of welding rod (Wt-%)


C	Si	Mn	Cr	Ni	Mo	N	
0.015	0.35	0.4	25.0	9.5	3.9	0.25	

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	680	860	28	170	160

Operating data

	Polarity = -	Shielding gas:
		Ar (99.95%). An addition of up to 2% nitrogen (N2) and 20 – 30% helium (He) is advantageous and will have a positive effect on both mechanical and corrosion properties. The addition of helium (He) will increase the energy of the arc. Gas flow rate 4 – 8 l/min.

Dimensions (mm)

1.2	1.6	2.0	2.4	3.2
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