Avesta 2507/P100

Covered electrode, high-alloyed, superduplex stainless steel

Classifications

EN ISO 3581-A	AWS A5.4
E 25 9 4 N L R 3 2	E2594-17

Characteristics and typical fields of application

Superduplex covered electrode designed for welding superduplex steel and equivalent steel grades such as EN 1.4410 / UNS S32570 and EN 1.4501 / UNS S32760. Avesta 2507/P100 is characterized by its exceptionally good arc stability and weld pool control. It is particularly well-suited for applications where impact toughness requirements are moderate, i.e. < 27 J at 0°C. For higher requirements, Avesta 2507/P100 rutile should be preferred.

Excellent resistance to pitting, crevice and stress corrosion cracking in chloride containing environments.

Meets the corrosion test requirements per ASTM G48 Methods A, B, E (40°C).

Over-alloyed in nickel to promote austenite formation.

Designed for welding in all positions. The operating temperature range is 0°C to 220°C.

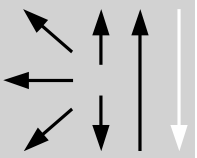
Base materials

EN 1.4410 X2CrNiMoN25-7-4, 1.4467 X2CrMnNiMoN 26-5-4, 1.4468, GX2 CrNiMoN 25-6-3, 1.4501 X2CrNiMoCuWN25-7-4, 1.4507 X2CrNiMoCuN 25-6-3, 1.4515 GX2CrNiMoCuN 26-6-3, 1.4517 GX2CrNiMoCuN 25-6-3-3; UNS S32750, S32760, J93380, S32520, S32550, S39274, S32950

Typical analysis of all-weld metal									Ferrite WRC-92
	C	Si	Mn	Cr	Ni	Mo	N	PREN	FN
wt.-%	0.02	0.8	0.9	24.8	9.8	3.6	0.22	≥ 40	45

Typical mechanical properties of all-weld metal – typical values (min. values)						
Heat treatment	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact work ISO-V KV J		Hardness
	MPa	MPa	%	20°C	–40°C	HB
u	**720** (≥ 550)	**880** (≥ 760)	**23** (≥ 18)	**32**	**-**	**250**
u untreated, as-welded						

Operating data



Polarity	Electrode ID	ø mm	L mm	Current A
DC +	2507/P100	2.5	300	50 – 70
		3.2	350	80 – 100
		4.0	350	100 – 140

Suggested heat input is 0.3 – 1.5 kJ/mm, interpass temperature max. 100°C. Re-drying of the electrode possible at 250 – 300°C for min. 2 h if necessary.
Metal recovery approx.110 % at max. welding current.
Post-weld heat treatment generally not needed. In special cases, solution annealing can be performed at 1100 – 1150°C followed by water quenching.
Scaling temperature approx. 850°C (air)

Approvals

CE