

Classifications

EN ISO 3581-A	AWS A5.4 / SFA-5.4
E 25 9 4 N L R 3 2	E2594-17

Characteristics and typical fields of application

Rutile coated electrode of E 25 9 4 N L R / E2594-17 type. Designed for welding superduplex steel and equivalent steel grades such as 1.4410 / UNS S32750, 1.4507 / UNS S32550 and 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. 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 G 48 Methods A, B, E (40°C). Over-alloyed in nickel to promote austenite formation. Designed for welding in all positions.

Base materials

1.4410 X2CrNiMoN25-7-4, 1.4467 X2CrMnNiMoN26-5-4, 1.4468 GX2CrNiMoN25-6-3, 1.4501 X2CrNiMoCuWN25-7-4, 1.4507 X2CrNiMoCuN25-6-3, 1.4515 GX2CrNiMoCuN26-6-3, 1.4517 GX2CrNiMoCuN25-6-3-3
UNS S32750, S32760, J93380, S32520, S32550, S39274, S32950

Typical analysis

	C	Si	Mn	Cr	Ni	Mo	N	PRE _n	FN
wt.-%	0.02	0.8	0.9	24.8	9.8	3.6	0.22	40	45

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength	Tensile strength	Elongation A	Impact energy ISO-V KV J		Hardness
	R _{p0.2}	R _m	(L ₀ =5d ₀)	20°C	0°C	
	MPa	MPa	%			HB
u	710 (≥ 550)	890 (≥ 760)	28 (≥ 18)	95	50 (≥ 32)	250

u untreated, as-welded

Operating data

	Polarity	DC+	Dimension mm	Current A
	Electrode identification	2507/P100	2.5 × 300	50 – 75
			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 needed: 350°C for min. 2 h.

Metal recovery approximately 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.

Approvals

CE