

Classifications									
EN ISO 3581-A					AWS A5.4				
E 25 9 4 N L B 4 3					E2594-15				
Characteristics and typical fields of application									
<p>Rutile-basic super duplex stick electrode especially designed for welding superduplex steel castings, such as UNS J93404, ASTM A890 Gr. 5A, 6A, ASME SA351, SA 995 grades CD3MN CD3MWCuN and similar. Super duplex steels are particularly popular for desalination, pulp &amp; paper, flue gas desulphurization and sea water systems. Tailored to offer weld metal ferrite levels of 35 – 50 % after post-weld heat treatment, Avesta 2507/P100-HF can successfully be used for repair welding of castings or be used as a substitute for standard electrodes, whose chemistry cannot give acceptable ferrite levels after heat treatment. Developed to satisfy severe requirements, such as those in NORSOK M-601 and similar standards. Properties of the weld metal match those of the parent metal, offering high tensile strength and toughness as well as an excellent resistance to stress corrosion cracking and localized corrosion in chloride containing environments. Meets the corrosion test requirements per ASTM G48 Methods A and E (50°C) in both as-welded condition and after post-weld heat treatment (annealing at 1100 – 1150°C, followed by short air cooling and quenching).</p>									
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.-%	0.03	0.45	1.3	25.6	8.8	4.1	0.23	> 42	u: 60; a: 45
Typical mechanical properties of all-weld metal – typical values (min. values)									
Heat treatment	Yield strength R <sub>p0.2</sub>	Tensile strength R <sub>m</sub>	Elongation A (L <sub>0</sub> =5d <sub>0</sub> )	Impact work ISO-V KV J		Hardness			
	MPa	MPa	%	20°C	-50°C	HB			
u	<b>730</b> (≥ 550)	<b>880</b> (≥ 760)	<b>25</b> (≥ 18)	<b>64</b>	<b>42</b>	<b>250</b>			
a	<b>560</b>	<b>830</b>	<b>30</b>	<b>140</b>	<b>90</b>	-			
u	untreated, as-welded								
a	annealed, at 110 – 1150°C followed by short air cooling and quenching								
Operating data									
	Polarity	Electrode ID	Ø mm	L mm	Current A				
	DC+	2507/P100-HF	4.0	350	110 – 150				
			5.0	350	150 – 220				
Suggested heat input is 0.5 – 1.5 kJ/mm, interpass temperature max. 150°C. Re-drying of the electrode possible at 250 – 300°C for min. 2 h if necessary. Metal recovery approx. 105 % at max. welding current. Scaling temperature approx. 850°C (air)									
Approvals									
CE									