Thermanit 25/09 CuT - Marathon 805

SAW wire/flux combination, high-alloyed, stainless, superduplex

(Avesta 2507/P100^{CuW} - Avesta Flux 805)

Classifications

EN ISO 14343-A	AWS A5.9 / SFA-5.9	EN ISO 14174
S 25 9 4 N L	ER2594	S A AF 2 DC

Characteristics and typical fields of application

Thermanit 25/09 CuT - Marathon 805 is a wire/flux combination for submerged arc welding of super duplex stainless steel grades such as 1.4410 / UNS S32570, 1.4507 / UNS S32550 and 1.4501 / UNS S32760. Solid wire of S 25 9 4 N L / ER2594 type. Resistant to intercrystalline corrosion. The weld metal shows excellent resistance to pitting and crevice corrosion in chlorine containing media as well as to stress corrosion cracking especially in H_2S containing media. Suitable for service temperatures from –50ºC to 220ºC. Duplex alloys have good weldability, but the welding procedure should be adapted to the base material considering fluidity, joint design, heat input, etc. The former product name of the SAW wire was "Avesta 2507/P100^{CuT}".

Marathon 805 is an agglomerated basic flux that ensures good welding properties with nice bead appearance and good slag detachability. The flux avoids excessive Cr- burn-out (Cr-support). For more information regarding this sub-arc welding flux, see the separate datasheet. The former product name of the SAW flux was "Avesta Flux 805".

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

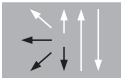
wt.-%	C	Si	Mn	Cr	Ni	Mo	W	N	Cu	FN
wire	0.015	0.40	0.90	26.0	9.5	3.8	0.6	0.23	0.6	50
all-weld metal	0.015	0.50	0.70	26.0	9.5	3.8	0.6	0.21	0.5	40

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

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact energy ISO-V KV J
	MPa	MPa	%	–46°C
u	700 (≥ 600)	890 (≥ 800)	23 (≥ 20)	70 (≥ 45)

u untreated, as-welded

Operating data



Dimension mm	Current A	Voltage V
2.4	300 – 400	29 – 33
3.2	350 – 500	29 – 33

Suggested heat input max. 1.5 kJ/mm, interpass temperature max. 120ºC. Polarity: DC+. No preheating.
Post-weld heat treatment generally not needed. In special cases, solution annealing can be performed at 1100 – 1150ºC followed by water quenching.

Approvals

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