

## Classifications

EN ISO 14343-A	AWS A5.9 / SFA-5.9	EN ISO 14174
S 29 9	ER312	S AAF 2 DC

## Characteristics and typical fields of application

**Thermanit 30/10 - Marathon 805** is a wire/flux combination for submerged arc welding.

Solid wire of S 29 9 / ER312 type for joining and surfacing applications with matching / similar steels and cast steel grades. For fabricating tough joints (one layer) on unalloyed / low-alloyed structural steels of higher strength on high manganese steel and CrNiMn-steels.

The all-weld metal is has as high ferrite content as 40 – 60% ferrite. In high dilution applications with unalloyed or low-alloyed steel grades, Thermanit 30/10 can, for this reason, be advantageous over an ER309L wire. Suitable also for "difficult-to-weld steels". High resistance to hot cracking, good toughness and strength properties. Scaling temperature 850°C in air. Application temperature max. 300°C. The former product name of the SAW wire was "Avesta P7".

**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

Suitable for dissimilar joints of unalloyed or low-alloyed steels with stainless steels as well as for cladding on low-alloyed steels. Difficult-to-weld steels.

## Typical analysis


wt.-%	C	Si	Mn	Cr	Ni
wire	0.10	0.40	1.9	30.0	9.0
all-weld metal	0.10	0.60	1.6	30.5	8.8

## 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	%	20°C
u	(≥ 640)	(≥ 770)	(≥ 22)	(≥ 35)

u untreated, as-welded

## Operating data

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

Preheating and interpass temperature as required by the base metal and should not exceed 150°C. Suggested heat input is max. 2.0 kJ/mm. Polarity: DC+.

For constructions that include low-alloyed steels in mixed joints, a stress-relieving annealing stage may be advisable. However, this type of alloy may be susceptible to embrittlement-inducing precipitation in the temperature range 550 – 950°C. Always consult the supplier of the parent metal or seek other expert advice to ensure that the correct heat treatment process is carried out.

## Approvals

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