

Classifications

SAW solid wire:		SAW flux:
EN ISO 24598-A	AWS A5.23	EN ISO 14174
S ZCrMoWVNb9 1 1	EB91 (mod.)	SA FB 2 55 DC H5

Characteristics and typical fields of application

Sub-arc wire/flux combination suited for creep resistant 9 % Cr steels, especially for E911. Approved in long-term condition up to +650 °C service temperature. The wire and flux are precisely balanced to consistently meet the highest technical requirements. Preheating and interpass temperature 200 – 300 °C. After welding the joint should be cooled down below 80 °C to finish the martensite transformation. In case of greater wall thickness or complex components the possibility of residual stresses must be considered. The following post weld heat treatment is recommended: annealing 760 °C/min. 4 h, max. 10 h, heating and cooling rates below 550 °C max. 150 °C/h, above 550 °C max. 80 °C/h. For optimised toughness properties a technology which ensures thin welding layers is recommended. For information regarding the sub-arc welding flux BÖHLER BB 910 see our detailed data sheet.

Base materials

Similar alloyed creep resistant steels
1.4905 X11CrMoWVNb9-1-1, E911

Typical analysis of the wire and of all-weld metal (wt.-%)

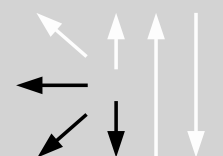
	C	Si	Mn	Cr	Ni	Mo	V	W	Nb
SAW wire wt.-%	0.11	0.35	0.45	9.0	0.75	1.0	0.2	1.05	0.06
all-weld metal %	0.1	0.35	0.6	8.9	0.7	0.8	0.2	1.05	0.05

Mechanical properties of all-weld metal

Condition	Yield strength R _{p0,2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact work ISO-V KV J
	MPa	MPa	%	+20 °C
a	610 (≥ 560)	740 (≥ 700)	20 (≥ 16)	40

a annealed 760 °C/4 h / furnace down to 300 °C / air

Operating data

	Polarity: DC (+) / DC (-)	Redrying of sub-arc flux: 300 – 350 °C / 2 – 10 h	ø (mm) 2.5 3.0
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Approvals

TÜV (09229.), CE