

## IABCO EB91

### SAW wire for low alloy steels

Product name	IABCO EB91		
Classification EN ISO	24598-A:	S CrMo91	
Material No.	1.4903		
Classification AWS	A5.23:	EB91	
Approvals	TÜV 12685.00, CE.		
Applications	Submerged arc welding wire for high temperature, creep resistant, modified 9%Cr-1%Mo martensitic steel (T91/P91). T91/P91 steel is commonly used at service temperatures up to 620°C and the UP-P91 wire has approval for long term service up to 650°C. V, Nb and N additions provide this 'creep strength enhanced ferritic' (CSEF) alloy with improved high temperature creep resistance compared to standard CrMo creep resistant alloys. Alloy T91/P91 is widely used in the power generating industry for fossil fuel ultra-super-critical (USC) power plant boilers and turbines; the alloy is also finding applications in the chemical and oil & gas industries.		
Base materials	For matching P91, 9%Cr-1%Mo modified, creep resisting martensitic steels. ASTM: A182/A336 grade F91, A213 grade T91, A217 grade C12A, A234 grade WP91, A335 grade P91, A387 grade 91. X10CrMoVNb 9 1		
Typical analysis of wire, weight %	C: 0.10 Cr: 8.70 V: 0.20	Si: 0.25 Mo: 1.00 Nb: 0.04	Mn: 0.50 Ni: 0.60
Typical heat treatment <sup>(1)</sup>	Preheat temperature: 200°C. Interpass temperature: 300°C. PWHT: 760°C.		
Mechanical properties of weld deposit <sup>(2)</sup>	0.2% proof stress, Rp0.2%: ≥540MPa. Tensile strength, Rm: ≥620MPa. Elongation, 4d/5d: ≥17%.		
Other products	SAW flux: UNISCO 1980. MIG/GMAW: ER90S-B9. TIG/GTAW: ER90S-B9.		

**Notes** (1) Application codes and project specifications should always be referred to for specific requirements.

(2) Actual mechanical properties will be dependent on specific welding procedure (including shielding gas, flux, PWHT etc) and should always be confirmed by approval of an appropriate welding procedure.