

## IABCO ER90S-B9 TIG

### TIG/GTAW wire for low alloy steels

|  |   |           |          |
|--|---|-----------|----------|
| Product name   | IABCO ER90S-B9 TIG  |           |          |
| Classification EN ISO                                | 21952-A:  | W CrMo91  |          |
| Material No.   | 1.4903  |           |          |
| Classification AWS                                   | A5.28:  | ER90S-B9  |          |
| Approvals  | TÜV 12905.00, CE.   |           |          |
| Applications   | TIG/GTAW rod 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.<br>A182/A336 F91, A213 T91, A217 C12A, A234 WP91, A335 P91, A387 91<br>X10CrMoVNb 9 1.  |           |          |
| Typical analysis of wire, weight %                   | C:  | 0.10      | Si: 0.25 |
|  | Mn:   | 0.50      | Cr: 8.70 |
|  | Mo:   | 1.00      | Ni: 0.60 |
|  | V:  | 0.20      | Nb: 0.04 |
| Typical heat treatment <sup>(1)</sup>                | Preheat temperature: 200°C.<br>Interpass temperature: 300°C.<br>PWHT: 760°C.  |           |          |
| Mechanical properties of weld deposit <sup>(2)</sup> | 0.2% proof stress Rp0.2%: ≥520MPa.<br>Tensile strength Rm: ≥620MPa.<br>Elongation 4d/5d: ≥16%.  |           |          |
| Other products                                       | SAW:  | EB91.     |          |
|  | MIG/GMAW:   | 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.