



CEWELD ER 90S-B9 (P91) Tig

TYPE	Medium alloyed, high-strength creep resistant 9% Chromium alloy.																
APPLICATIONS	Designed for welding equivalent type 91~ 9% Cr Steels modified with small additions of Niobium, Vanadium and Nitrogen to offer improved long term creep properties. This alloy is specially intended for high integrity structural service at elevated temperature such as: Headers, main steam piping and turbine casings, gasification plants etc.																
PROPERTIES	Filler metal specifically intended for high integrity structural service at elevated temperature so the minor alloy additions responsible for its creep strength are kept above the minimum considered necessary to ensure satisfactory performance.																
CLASSIFICATION	<table border="0"> <tr> <td>AWS</td> <td>A 5.28: ER 90S-B91</td> </tr> <tr> <td>EN ISO</td> <td>21952-A: W CrMo91</td> </tr> <tr> <td>F-nr</td> <td>6</td> </tr> <tr> <td>FM</td> <td>3</td> </tr> <tr> <td>W.Nr.</td> <td>1.4903</td> </tr> </table>	AWS	A 5.28: ER 90S-B91	EN ISO	21952-A: W CrMo91	F-nr	6	FM	3	W.Nr.	1.4903						
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SUITABLE FOR	For matching P91, 9%Cr1%Mo modified, creep resisting martensitic steels A 213 T91, A335 P91, A387 Gr91, A 182/A336 F91, X10CrMoVNb9-1, 1503 Gr91, AFNOR NF A-49213/A-49219 Gr TU Z 10, CDVNb 09-01																
APPROVALS	CE																
WELDING POSITIONS																	
TYPICAL CHEMICAL ANALYSIS OF THE FILLER METAL (%)	<table border="1"> <thead> <tr> <th>C</th> <th>Si</th> <th>Mn</th> <th>Cr</th> <th>Ni</th> <th>Mo</th> <th>V</th> <th>Other</th> </tr> </thead> <tbody> <tr> <td>0.1</td> <td>0.32</td> <td>0.52</td> <td>9.15</td> <td>0.65</td> <td>0.95</td> <td>0.22</td> <td>0.04</td> </tr> </tbody> </table>	C	Si	Mn	Cr	Ni	Mo	V	Other	0.1	0.32	0.52	9.15	0.65	0.95	0.22	0.04
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ALL WELD MECHANICAL PROPERTIES	<table border="1"> <thead> <tr> <th>Heat Treatment</th> <th>R_{p0,2} MPa</th> <th>R_m MPa</th> <th>A₅ (%)</th> <th>Impact Energy (J) ISO-V RT</th> </tr> </thead> <tbody> <tr> <td>730°C- 760°C /3h</td> <td>520</td> <td>750</td> <td>19</td> <td>200</td> </tr> </tbody> </table>	Heat Treatment	R _{p0,2} MPa	R _m MPa	A ₅ (%)	Impact Energy (J) ISO-V RT	730°C- 760°C /3h	520	750	19	200						
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REDRYING TEMPERATURE	Not required																
GAS ACCORDING EN 14175	I1																