CARBO S- CrMo 91
CARBO T- CrMo 91

International standards

	S = solid wire	T = bare rod
Material No.	1.4903	
EN 12070	SG CrMo91	WSG CrMo 91
AWS A5.28-96	ER90S-B9	

Approvals --- ---

Application notes

Wire electrode for welding high temperature, creep resistant martensitic 9-12 % chromium steels such as P91 and T91 and operation temperatures up to 650°C.
The deposits have good toughness properties even under long term stresses and high creep rupture strength.
Preheating and interpass temperature 250-350°C, after welding annealing 750°C/> 2h.

Operating temperature

up to + 650° C

Base materials

Similar steels
1.4903 – X10CrMoVNb9-1
ASTM A199 Gr. T91; A335 Gr. P91 ; A213/213M Gr. T91

Mechanical properties of all-weld metal (typical values)

Tensile strength R_m N/mm²	Yield strength R_{eL} N/mm²	Elongation A_5 %	Impact energy ISO–V J + 20°C
>620	>530	> 16	> 50

Weld metal analysis (typical, wt %)

C	Si	Mn	Cr	Mo	Ni	V	Nb	N
0,12	0,3	0,5	9,0	0,9	0,7	0,2	0,055	0,04

		S = solid wire				T = bare rod				
Gas types EN 439		M2, M3, C1				I1				
Current		= +				= –				
Diameter	mm	**0,8**	**1,0**	**1,2**	**1,6**	**1,6**	**2,0**	**2,4**	**3,2**	**4,0**
Welding amps	(A) min.	80	120	180	250					
	(A) max.	130	190	250	320					

coils, weight B300 15 kg. 10 kg.

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