

# FOXcore C 9 MV RC

Flux cored wire, high-alloyed, creep resistant

## Classifications

EN ISO 17634-A	EN ISO 17634-B	AWS A5.36/SFA-5.36	AWS A5.36M/SFA5.36M
T ZCrMo9VNb P M21 1 H5	T69T1-1M21-9C1MV-H5	E91T1-M21PY-B91-H4	E621T1-M21PY-B91-H4

## Characteristics and typical fields of application

FOXcore C 9 MV RC is a rutile- basic flux cored wire for the welding of creep resistant, tempered 9 % chromium steels in turbine-, boiler- and pipework construction as well as in the foundry industry. The wire is especially designed for the ASTM steels T91 / P91. The flux cored wire is designed for out of position welding technology. The chemistry of the product is according to LOW NICKEL content requirements, meaning (Ni + Mn) < 1wt.%.

## Base materials

Similar alloyed creep resistant steels like

1.4903 X10CrMoVNb9-1, G-X12CrMoVNbN9-1

ASTM A335 Gr. P91, A336 Gr. P91, A369 Gr. FP91, A387 Gr. 91, A213/213M Gr. T91 A 234 WP91, A182 F91

## Typical analysis of all-weld metal wt.-%

C	Si	Mn	Cr	Ni	Mo	V	Nb	N
0.10	0.2	0.7	9.0	0.2	1.0	0.2	0.04	0.04

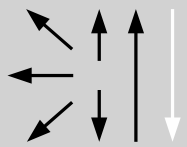
## Mechanical properties of all-weld metal

Heat Treatment	Yield strength R <sub>p0,2</sub>	Tensile strength R <sub>m</sub>	Elongation A (L <sub>0</sub> =5d <sub>0</sub> )	Impact work ISO-V KV J
	MPa	MPa	%	+20°C
a <sub>1</sub>	<b>580</b> (≥ 565)	<b>720</b> (690 – 760)	<b>18</b> (≥ 14)	<b>60</b> (≥ 32)
a <sub>2</sub>	<b>590</b> (≥ 565)	<b>730</b> (690 – 760)	<b>18</b> (≥ 14)	<b>40</b> (≥ 32)

a<sub>1</sub> annealed 760°C / 4 h / furnace down to 300°C / air ( acc. EN-ISO) shielding gas Ar + 18% CO<sub>2</sub>

a<sub>2</sub> annealed 760°C / 2 h / furnace down to 300°C / air (acc. AWS) shielding gas Ar + 18% CO<sub>2</sub>

## Operating data

	Polarity: DC ( + )	Shielding gas: (EN ISO 14175) M21  Consumption: approx. 15 – 18 l/min.	Redrying: if necessary 150°C/24 h	ø (mm) 1.2	Amps A 160 – 300	Voltage V 25 – 35
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Welding with conventional or pulsed power sources (preferably slightly trailing torch position, angle approx. 80°). Recommended stick out 15 - 20 mm and length of arc 3 – 5 mm. Preheating and interpass temperature 200 – 300°C (392 – 572 °F). After welding, the weld joint should cool down below 80 °C (176 °F) 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 (1400 °F)/min. 3h, max. 10h, heating and cooling rates below 550 °C (1022 °F) max. 150 °C (302 °F)/h, above 550 °C (1022 °F) max. 80 °C (176 °F).

## Approvals: TÜV