FOXcore C 9 MV RC

Flux-cored wire, high-alloyed, creep resistant

Classifications

AWS A5.29 / SFA-5.29	AWS A5.36 / SFA-5.36	EN ISO 17634-A	EN ISO 17634-B
E91T1-B91M-H4	E91T1-M21PY-B91-H4	T ZCrMo9VNb P M21 1 H5	T69T1-1M21-9C1MV-H5

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

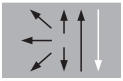
	Gas	C	Si	Mn	Cr	Ni	Mo	V	Nb	N
wt.-%	M21	0.10	0.2	0.7	9.0	0.2	1.0	0.2	0.04	0.04

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact energy ISO-V KV J
	ksi	ksi	%	68°F
s	84 (≥ 82)	104 (≥ 100 – 110)	18 (≥ 14)	44 (≥ 24)
s1	86 (≥82)	106 (≥100 - 110)	18 (≥14)	30 (≥24)

s - stress relieved 1400°F / 4 h / furnace down to 572°F / air (acc. EN-ISO) shielding gas Ar + 18% CO2
s1 - stress relieved 1400°F / 2 h / furnace down to 572°F / air (acc. AWS) shielding gas Ar + 18% CO2

Operating data



Dimension inch
0.045"

Welding with conventional or pulsed power sources (preferably slightly trailing torch position, angle approx. 80 degree. Recommended stick out 15 - 20 mm and length of arc 3 – 5 mm. Preheating and interpass temperature 392 – 572ºF . After welding, the weld joint should cool down below 176ºF to fi nish the martensite transformation. In case of greater wall thickness or complex components the possibility of residual stresses must be cconsidered.

The following post weld heat treatment is recommended: annealing 1400ºF ()/min. 3h, max. 10h, heating and cooling rates below 1022 ºF, max. 302 ºF /h, above 1022ºF max. 176 ºF.

Approvals

TÜV (19235)

All information provided is based upon careful investigation and intensive research.
However, we do not assume any liability for correctness and information is subject to change without notice.