

BÖHLER FOX DCMS Kb

Stick electrode, low-alloyed, creep resistant

SMAW

Classifications

EN ISO 3580-A
E CrMo1 B 4 2 H5

AWS A5.5 / SFA-5.5
E8018-B2 H4

Characteristics and typical fields of application

Basic coated, core wire alloyed low hydrogen electrode for 1% Cr 0.5% Mo alloyed boiler, plate, and tube steels. Approved in long-term condition up to +570°C service temperature. Fully alloyed core wire which will provide reliable creep rupture properties for the whole service life of a boiler plant. High ductility and crack resistance. The weld metal deposit is heat treatable. Very low hydrogen content (acc. AWS condition HD < 4 ml/100 g). Metal recovery approximately 115%. Suitable for step-cooling application. Bruscato ≤ 15ppm. post-weld tempering at 660 – 700°C for at least ½ h followed by cooling in furnace down to 300°C and still air.

Base materials

Creep resistant steels and similar alloyed cast steels, case hardening and nitrite able steels of similar chemical composition, similar alloyed heat treatable steels with tensile strength up to 780 MPa, steels resistant to caustic cracking

1.7335 13CrMo4-5, 1.7262 15CrMo5, 1.7728 16CrMoV4, 1.7218 25CrMo4, 1.7225 42CrMo4, 1.7258 24CrMo5, 1.7354 G22CrMo5-4, 1.7357 G17CrMo5-5

ASTM A 182 Gr. F12; A 193 Gr. B7; A 213 Gr. T12; A 217 Gr. WC6; A 234 Gr. WP11; A335 Gr. P11, P12; A 336 Gr. F11, F12; A 426 Gr. CP12

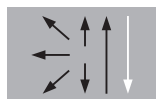
Typical analysis of all-weld metal

wt.-%	C	Si	Mn	Cr	Mo	P	Sb	Sn	As
	0.08	0.25	0.8	1.1	0.5	≤ 0.010	≤ 0.005	≤ 0.005	≤ 0.005

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

Condition	Yield strength R _{p0.2} MPa	Tensile strength R _m MPa	Elongation A (L ₀ =5d ₀) %	Impact values ISO-V KV J 20°C
a	480 (≥ 460)	580 (≥ 550)	23 (≥ 20)	160 (≥ 47)
v	380	520	28	190
a annealed 680 °C/2h / furnace down to 300 °C / air				
v quenched/tempered 930 °C/0.5 h / air 680 °C/10 h / furnace down to 300 °C / air				

Operating data



Polarity	DC+
Electrode identification	FOX DCMS Kb 8018-B2 E CrMo1 B
Redrying	300-350°C/2h

Dimension mm	Current A
2.5 × 250	80 – 110
2.5 × 350	80 – 110
3.2 × 350	100 – 140
4.0 × 350	130 – 180
4.0 × 450	130 – 180
5.0 × 450	180 – 220

Preheat and interpass temperature acc. to the requirements of the base material (for 13CrMo4-5 at 200 - 250°C, annealing after welding at 660 - 700°C, min 1/2 h / oven to 300°C / air cooling).

Approvals

TÜV (00728.), DB (10.014.42), ABS, DNV GL, NAKS (Ø 3.2 mm; Ø 4.0 mm), CE