

Classifications

EN ISO 3580-A	EN ISO 3580-B	AWS A5.5M	AWS A5.5 / SFA-5.5
E CrMo2 B 4 2 H5	E6218-2C1M H5	E6218-B3 H4R	E9018-B3 H4R

Characteristics and typical fields of application

BÖHLER FOX CM 2 Kb is a covered electrode with basic coating for shielded metal arc welding. The 2.25Cr-1Mo type weld metal exhibits a bainitic microstructure with favorable mechanical properties in tempered and quenched and tempered condition. Under certain conditions applications in the as welded condition is possible. The range of application covers joint welding of similar alloyed creep resistant steel and steel casting in thermal power and chemical industry. BÖHLER FOX CM 2 Kb is approved for application under creep condition at design temperatures up to 600 °C. The very low content of trace elements in the weld metal guarantees a bruscato factor of < 15 ppm, which means that BÖHLER FOX CM 2 Kb is resistant to tempering embrittlement and reliably meets the requirements of step-cooling test conditions.

The basic coating guarantees low level of diffusible hydrogen in the weld metal and a metal recovery of approximately 110 %.

Base materials

similar alloyed creep resistant steels and alloyed cast steels like

1.7380 10CrMo9-10, 1.7375 12CrMo9-10, 1.7276 10CrMo11, 1.7281 16CrMo9-3, 1.7383 11CrMo9-10, 1.7745 15CrMoV5-10, 1.7379 G17CrMo9-10, 1.7382 G19CrMo9-10

ASTM A 182 Gr. F22; A 213 Gr. T22; A217 Gr. WC9, A 234 Gr. WP22; 335 Gr. P22; A 336 Gr. F22; A 426 Gr. CP22

Typical analysis

	C	Si	Mn	Cr	Mo	P	Sb	Sn	As
wt.-%	0.08	0.3	0.7	2.2	1.0	≤ 0.010	≤ 0.005	≤ 0.006	≤ 0.005

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	
	MPa	MPa	%	20 °C	-29 °C
T 1	600 (≥ 530)	700 (≥ 620)	22 (≥ 18)	170 (≥ 47)	105 (≥ 47)
T 2	485 (≥ 400)	615 (≥ 500)	24 (≥ 18)	175 (≥ 47)	115 (≥ 47)
NT	465 (≥ 400)	600 (≥ 500)	21 (≥ 18)	180 (≥ 47)	

T 1: tempered (690 °C / 1h)

T 2: tempered (730 °C / 2h)

NT: normalized and tempered (950 °C / 0.5h / air + 680 °C / 15h / air)

Operating data

	Polarity	DC +	Dimension mm	Current A
	Electrode identification	FOX CM 2 Kb 9018-B3 E CrMo2 B	2.5 × 250	80 – 110
	Redrying	300-350 °C / 2h	3.2 × 350	100 – 140
			4.0 × 350	130 – 180
			4.0 × 450	130 – 180
			5.0 × 450	180 – 230

Preheating, interpass temperature, and post-weld heat treatment as required by the base metal. Preheating and interpass temperature can normally be recommended being in a range of 150 to 350 °C depending on the wall thickness. Common post weld heat treatments are carried out between 650 and 750 °C.

Approvals

TÜV (00722), DB (10.014.81), ABS, DNV, CE, NAKS (Ø 3,2; Ø 4,0 mm)