

## Classifications

EN ISO 3580-A	EN ISO 3580-B	AWS A5.5M	AWS A5.5 / SFA-5.5
E CrMo1 B 4 2 H5	E518-1CM H5	E518-B2 H4	E8018-B2 H4

## Characteristics and typical fields of application

BÖHLER FOX DCMS kb is a core wire alloyed covered electrode with basic coating for shielded metal arc welding. The 1Cr-0.5Mo 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. BÖHLER FOX DCMS kb is approved for application under creep condition at design temperatures up to 570 °C. Due to the low content of residual and tramp elements the weld metal offers a typical Bruscato factor < 12 ppm. Thus, being resistant to temper embrittlement and complies with the requirements on step-cooling testing. The optimized coating guarantees low level of diffusible hydrogen in the weld metal and a metal recovery of 115 %.

## Base materials

Creep resistant steels and similar alloyed cast steels like

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

	C	Si	Mn	Cr	Mo	P	Sb	Sn	As
wt.-%	0.09	0.3	0.8	1.2	0.5	≤ 0.010	≤ 0.005	≤ 0.005	≤ 0.005

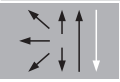
## Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength $R_{p0.2}$	Tensile strength $R_m$	Elongation A ( $l_0=5d_0$ )	Impact energy ISO-V KV J	
	MPa	MPa	%	20°C	-20°C
T	500 (≥ 460)	600 (≥ 550)	25 (≥ 20)	160 (≥ 47)	160
QT	380	520	28	190	-

T: tempered (690 °C / 1 h)

QT: quenched and tempered (930 °C / 0.5 h / air + 680 °C / 10 h)

## Operating data

	Polarity	DC +	Dimension mm	Current A
	Electrode identification	FOX DCMS Kb 8018-B2 E	2.5 × 250	80 – 110
		CrMo1 B	2.5 × 350	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 – 220

Preheating, interpass temperature, and post-weld heat treatment as required by the base metal. Preheating can normally be recommended being in a range of 200 to 300 °C depending on the wall thickness. Common post weld heat treatments are carried out between 600 and 700 °C.

## Approvals

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