

Classifications

EN ISO 3580-A	AWS A5.5 / SFA-5.5	AWS A5.5M
E MoV B 4 2 H5	E8018-G	E5518-G

Characteristics and typical fields of application

BÖHLER FOX DMV 83 Kb is a core wire alloyed covered electrode with basic coating. The 0.5Cr-1Mo-0.5V type weld metal exhibits a bainitic microstructure with favorable mechanical properties in tempered condition. The range of application covers joint welding of similar alloyed creep resistant steel and steel casting like 16MoV6-3 in the thermal power industry. BÖHLERFOX DMV 83 Kb is approved for application under creep condition at design temperatures up to 580 °C. The basic coating of BÖHLER FOX DMV 83 Kb guarantees low level of diffusible hydrogen in the weld metal and a metal recovery of 115 %.

Base materials

Similar alloyed creep resistant steels and cast steels like
1.7715, 14MoV6-3

Typical analysis

	C	Si	Mn	Cr	Mo	V
wt.-%	0.065	0.35	1.2	0.4	1.0	0.5

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
T	510 (≥ 460)	660 (≥ 550)	22 (≥ 18)	200 (≥ 47)
QT	410	580	26	150

T: tempered (720 °C / 2 h)

QT: quenched and tempered (940 °C / 0.5 h / oil 730 °C / 0.5 h)

Operating data

	Polarity	DC +	Dimension mm	Current A
	Electrode identification	FOX DMV 83 Kb 8018-G E MoV B	2.5 × 250	70 - 100
			3.2 × 350	110 - 140
	Redrying	300 – 350 °C / 2 h	4.0 × 350	140 - 180

Preheating and interpass temperatures 200 to 300 °C. In order to optimize impact energy a welding technique that ensures small layer thickness and low heat input is recommended. Stringer beads or weaving of maximum 2.5 x electrode diameter is recommended. Post weld heat treatment at 700 to 720 °C for at least 2 hours followed by slow cooling.

Approvals

TÜV (01094.), CE