

ENISO 2560-A:2005:E 42 5 B 42 H5  
 ENISO 2560-B:2005:E 49 18-1 A U H5  
 AWS A5.1-04: E7018-1H4R  
 AWS A5.1M-04: E4918-1H4R

**BÖHLER FOX EV 50**

SMAW basic electrode, mild steel

**Description**

Basic electrode engineered for high-quality welds. Excellent strength and toughness properties down to -50 °C. Metal recovery approx. 110 %. Good weldability in all position except for vertical-down. Very low hydrogen content (according AWS condition HD < 4 ml/100 g weld metal). Suitable for welding steels with low purity and high carbon content. Welding in steel construction, boiler and tank manufacture, vehicle construction, shipbuilding, and machine construction as well as for buffer layers on build ups on high carbon steels. Especially suitable for off-shore construction, CODT tested at -10 °C. It can be used in sour gas applications (HIC-Test acc. NACE TM-02-84). Test values for SSC-test are available too.

**Typical Composition of All-weld Metal**

	C	Si	Mn
wt-%	0.07	0.5	1.1

**Mechanical Properties of All-weld Metal**

(*)	u	s
Yield strength $R_e$ N/mm <sup>2</sup> :	<b>490</b> (≥ 420)	<b>430</b>
Tensile strength $R_m$ N/mm <sup>2</sup> :	<b>560</b> (500 - 640)	<b>520</b>
Elongation A ( $L_0 = 5d_0$ ) %:	<b>27</b> (≥ 22)	<b>29</b>
Impact work ISO-V KV J	+ 20 °C:	<b>190</b> (≥ 120)
	- 20 °C:	<b>160</b>
	- 50 °C:	<b>100</b> (≥ 47)

(\*) u untreated, as-welded

s stress relieved 600 °C/2 h/furnace down to 300 °C/air

**Operating Data**

re-drying if necessary:  
**300 - 350 °C, min. 2 h**  
 Electrode identification:  
**FOX EV 50 7018-1 E 42 5 B**

ø mm	L mm	amps A
2.0	250	50 - 70
2.5	250/350	80 - 110
3.2	350/450	100 - 140
4.0	450	130 - 180
5.0	450	180 - 230
6.0	450	240 - 290

**Base Materials**steels up to a yield strength of 420 N/mm<sup>2</sup> (60 ksi)

S235JR-E335, S235J2G3 - S355J2G3, C22, P235T1-P355T1, P235T2, P355T2,  
 L210 - L360NB L290MB - L320MB, P235G1TH, P255G1TH, P235GH, P265GH, P295GH,  
 S235JRS1 - S235J4S, S355G1S - S355G3S, S255N - S355N, P255NH-P355NH,  
 S255NL - S355NL, GE200-GE260, GE300

ASTM A 27 a, A36 Gr. all; A214: A 242 Gr. 1-5; A266 Gr. 1, 2, 4; A283 Gr. A, B, C, D; A285  
 Gr. A, B, C; A299 Gr. A, B; A328; A366; A515 Gr. 60, 65, 70; A516 Gr. 55; A570 Gr. 30, 33,  
 36, 40, 45; A 572 Gr. 42, 50; A606 Gr. all; A607 Gr. 45; A656 Gr. 50, 60; A668 Gr. A, B; A907  
 Gr. 30, 33, 36, 40; A841; A851 Gr. 1, 2; A935 Gr. 45; A936 Gr. 50; API 5 L Gr. B, X42 - X56

**Approvals and Certificates**

TÜV-D (0426.), DB (10.014.02), ÖBB, TÜV-A (32), ABS (3H5, 4Y), BV (3YHHH),  
 DNV (3YH10), FI (E 42 5 B 42 H5), GL (4Y40H15), LR (3, 3YH5), RMR (3YHH),  
 RINA (4YDH5/4DH5), LTSS, VUZ, SEPPOZ, PDO, CRS (3YH5), CE