

Mild Steel Filler Metals – SMAW Covered Electrodes

EN ISO 2560-A:2010:	E 42 5 B 42 H5
EN ISO 2560-B:2010:	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, CTOD 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

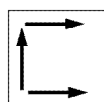
	C	Si	Mn
Wt-%	0.07	0.5	1.1

Mechanical Properties of All-weld Metal

(*)	u	s
Yield strength R_e N/mm ² (MPa):	490 (≥ 420)	430
Tensile strength R_m N/mm ² (MPa):	560 (500 - 640)	520
Elongation A ($L_0 = 5d_0$) %:	27 (≥ 22)	29
Impact work ISO-V KV J		
+ 20 °C:	190 (≥ 120)	220
- 20 °C:	160	190
- 50 °C:	100 (≥ 47)	140

(*) 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 Materialssteels up to a yield strength of 420 N/mm² (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), GL (4Y40H15), LR (3, 3YH5), RMR (3YHH), RINA (4YH5/4H5), LTSS, VUZ, SEPPOZ, PDO, CRS (3YH5), CE, NAKS