

EN 1668:1997: W 42 5 W3Si1
 AWS A5.18-01: ER70S-6
 AWS A5.18M-04: ER48S-6
 W.Nr: 1.5125

BÖHLER EMK 6

GTAW rod, mild steel

Description

TIG-welding rod with high silicon content. The welding rod is suited for joints in boiler and vessel fabrication as well as in structural steel engineering. 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 Welding Rod

	C	Si	Mn
wt-%	0.1	0.9	1.4

Mechanical Properties of All-weld Metal


(*)		u		s
Yield strength R_e N/mm ² :		430	(≥ 420)	400
Tensile strength R_m N/mm ² :		540	(500 - 640)	510
Elongation A ($L_0 = 5d_0$) %:		27	(≥ 20)	28
Impact work ISO-V KV J	+ 20 °C:	160	(≥ 100)	180
	- 40 °C:	70		110
	- 50 °C:		(≥ 47)	

(*) u untreated, as-welded – shielding gas Argon

s stress relieved, 620 °C/2 h – shielding gas 100 % Argon

Operating Data



shielding gases: Argon
 rod marking:
 front:  W3Si1
 back: ER70S-6

ø mm
 1.6
 2.0
 2.4



Base Materials

steels up to a yield strength of 420 N/mm² (60 ksi)

S235J2G3-S355J2G3, E360, P235T1-P355T1, P235G1TH, L210, L290MB, P255G1TH, P235GH, P265GH, P295GH, P310GH, P255NH, S235JRS1-S235J4S, S355G1S-S355G3S, S255N-S385N, P255NH-P385NH, GE200-GE260

ASTM A27 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 (09717.), TÜV-A (521), UDT, LTSS, SEPROZ

EN 499:1994:
AWS A5.5-96:

E 46 5 1Ni B 4 5 H5
E8018-G

BÖHLER FOX BVD 85

SMAW stick electrode for vertical-down welding,
basic coating, pipe welding

Description

Basic coated electrodes for vertical-down welds of large diameter pipelines and for structural work. Suitable for filler and cover pass welding in pipeline construction. Deposit is extremely crack resistant, and features high toughness and a very low hydrogen content ($HD < 5 \text{ ml/100 g}$). Deposition rate is 80-100 % higher than for vertical up welding. The weld deposit of BÖHLER FOX BVD 85 shows an ideal combination between high strength and cryogenic toughness down to -50°C (-58°F). Special design and development work has enabled this electrode to provide exceptional striking characteristics and the avoidance of start porosity on cover (cap) passes. Due to this and the good welding characteristics this special basic electrode offers easy handling even under field conditions.

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	Ni
wt-%	0.04	0.4	0.9	0.9

Mechanical Properties of All-weld Metal

(*)		u	
yield strength R_e N/mm ² :		510	(≥ 460)
tensile strength R_m N/mm ² :		560	(550 - 650)
elongation A ($L_0 = 5d_0$) %:		27	(≥ 22)
impact work ISO-V KV J	+ 20 °C:	170	(≥ 130)
	$\pm 0^\circ\text{C}$:	150	
	- 20 °C:	120	
	- 40 °C:	85	(≥ 60)
	- 50 °C:	65	(≥ 47)

(*) u untreated, as-welded

Operating Data



re-drying if necessary:

300 - 350 °C, min. 2 h

electrode identification:

FOX BVD 85 8018-G E 46 5 1Ni B

ø mm	L mm	amps A
3.2	350	110 - 160
4.0	350	180 - 210
4.5	350	200 - 240



Base Materials

S235J2G3 - S355J2G3, L290NB - L450NB, L290MB - L450MB,

P235GH - P295GH

API Spec. 5 L: A, B, X 42, X 46, **X 52, X 56, X 60, X 65**

Approvals and Certificates

TÜV-D (03531.), CL (1404), GdF, UDT, SEPROZ

EN 499:1994:
AWS A5.5-96:

E 46 3 B 4 1 H5
E8018-G

BÖHLER FOX BVD RP

SMAW stick electrode for vertical-down welding,
basic coating, pipe welding

Description

Basic coated electrode for vertical-down welding of root passes in pipeline construction and structural work. Also suitable for vertical- up welding of root passes. The deposit is extremely crack resistant and features high toughness and a very low hydrogen content (HD < 5 ml/100 g). Highly economical compared with conventional vertical-up welding.

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-%	0.05	0.3	1.0

Mechanical Properties of All-weld Metal

(*)		u	
yield strength R _e N/mm ² :		510	(≥ 460)
tensile strength R _m N/mm ² :		560	(550 - 650)
elongation A (L ₀ = 5d ₀) %:		26	(≥ 22)
impact work ISO-V KV J	+ 20 °C:	170	(≥ 130)
	± 0 °C:	150	
	- 20 °C:	120	
	- 30 °C:	60	(≥ 47)

(*) u untreated, as-welded

Operating Data



re-drying if necessary:

300 - 350 °C, min. 2 h

electrode identification:

FOX BVD RP 8018-G E 46 3 B

ø mm

2.5

3.2

L mm

350

350

amps A

80 - 110

100 - 160

=+

Base Materials

root passes for following steels:

S235J2G3 - S355J2G3, L290NB - L415NB, L290MB - L555MB,

P235GH - P310GH

API Spec. 5 L: X 42, X 46, X 52, X 56, X 60, X 70, X 80

Approvals and Certificates

TÜV-D (03532.), UDT, SEPROZ