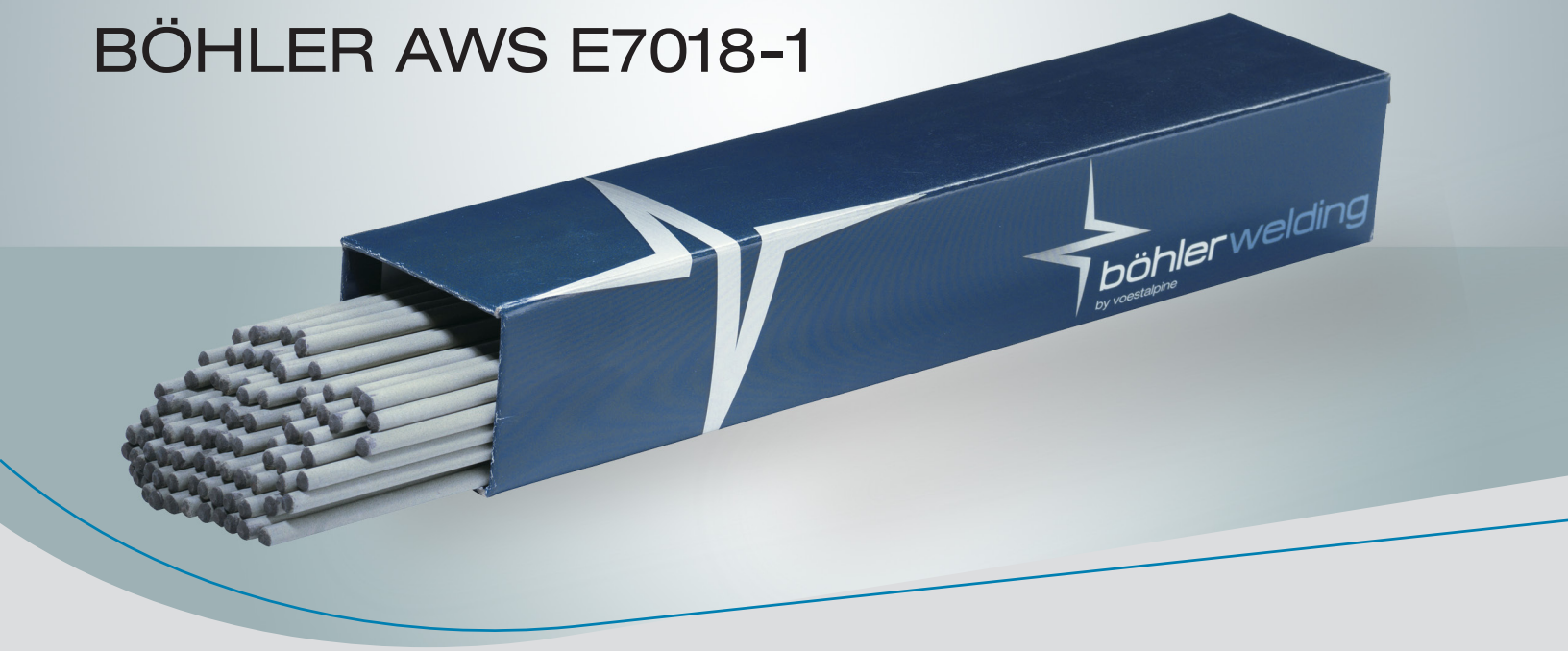
böhlerwelding
by voestalpine

BÖHLER AWS E7018-1



In spite of increasing automation of welding processes, manual welding with covered electrodes is still a common practice. Covered electrodes can be welded with easiest equipment, and nearly every welder is used to working with this welding process.
Especially in challenging geological areas such as for pipeline welding and on offshore platforms, or for welding of difficult to access seams in boilers and tanks, stick electrodes are still in heavy use.

This basic electrode offers both very good welding characteristics and high mechanical values.

- A wide range of approvals allows to use this electrode for qualified welds in nearly all application areas
- Very low hydrogen content of HDM < 4 ml/100 g
- Low moisture pick up
- Excellent impact properties at -50C
- Made in Austria
- Approvals: TÜV (12451.), ABS, CWB, BV, DNV, GL, CE

Article #	Size	Kg/Pallet	Carton KG	Sleeve KG
81499	2.0 mm x 250 mm	940.80	11.2	2.8
81500	2.5 mm x 350 mm	918.40	16.4	4.1
81501	3.2 mm x 350 mm	940.80	16.8	4.2
81502	4.0 mm x 450 mm	849.60	23.6	5.9
81503	5.0 mm x 450 mm	806.40	22.4	5.6
85499	6.0 mm x 450 mm	928.00	23.2	5.8

voestalpine
ONE STEP AHEAD.

BÖHLER AWS E7018-1

Stick electrode, unalloyed, basic coated

Classifications

EN ISO 2560-A	AWS A5.1
E 42 5 B 4 2 H5	E7018-1H4

Characteristics and typical fields of application

Basic coated electrode engineered for high-quality welds. Excellent strength and toughness properties. Also suitable for welding steels with low purity and high carbon content. Metal recovery > 110%. Good weldability in out-of-position work except for vertical-down. Suitable for welding in steel construction, boiler and container fabrication, vehicle construction, shipbuilding, and machine construction as well as for buffer layers when building up on high carbon steels.

Base Materials

S235JR-S355JR, S235JO-S355JO, S235J2-S355J2, S275N-S420N, S275M-S420M, S275NL-S420NL, S275ML-S420ML, P235GH-P355GH, P275NL1-P355NL1, P275NL2-P355NL2, P215NL, P265NL, P355N, P285NH-P420NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L415NB, L245MB-L415MB, GE200-GE240, GE300, ship building steels: A, B, D, E, A 32-F 36, A 40-F 40

ASTM A 106 Gr. A, B, C; A 181 Gr. 60, 70; A 283 Gr. A, C; A 285 Gr. A, B, C; A 350 Gr. LF1, LF2; A 414 Gr. A, B, C, D, E, F, G; A 501 Gr. B; A 513 Gr. 1018; A 516 Gr. 55, 60, 65, 70; A 573 Gr 58, 65, 70; A 588 Gr. A, B; A 633 Gr. A, C, D, E; A 662 Gr. A, B, C; A 707 Gr. L1, L2, L3; A 711 Gr. 1013; A 841 Gr. A, B, C; API 5 L Gr. B, X42, X52, X56, X60

Typical analysis of all-weld metal (wt.-%)

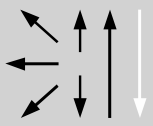
	C	Si	Mn
wt.-%	0.07	0.5	1.1

Mechanical properties of all-weld metal

Condition	Yield strength $R_{e0,2}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact work ISO-V KV J		
	MPa	MPa	%	+20°C	-20°C	-50°C
u	**470** (≥ 420)	**540** (500 – 640)	**26** (≥ 20)	**160**	**130**	(≥ 47)
s	**410**	**500**	**27**	**180**	**150**	**80**

u untreated, as welded
s stress relieved 600°C/2 h / furnace down to 300°C / air

Operating data



Polarity:	Redrying:	Electrode identification:	ø (mm)	L (mm)	Amps A
DC (+)	if necessary 300 – 350°C, min. 2h	BÖHLER AWS E7018-1 E 42 5 B	2.0	250	50 – 70
			2.5	300/350	80 – 110
			3.2	350	100 – 140
			4.0	450	130 – 180
			5.0	450	180 – 230
			6.0	450	240 – 290

Approvals

TÜV (12451.), ABS, BV (Ø2,0-5,0 mm), DNV, GL (Ø2,0-5,0 mm), CWB (Ø2,0-6,0 mm), CE