Basic electrode

Classification

AWS A5.1 : E7018 H4
ISO 2560-A : E 46 3 B 32 H5

General description

Basic very low hydrogen electrode (H_{DM} < 5 ml/100g)
Very good weldability, in all positions
Almost no spatter, nice wetting and full weld pool control
Good impact values down to -30°C
Excellent X-ray soundness

Welding positions

ISO/ASME PA/1G PB/2F PC/2G PF/3Gup PE/4G

Current type

DC + / -

Approvals

ABS	BV	DNV	GL	LR	RINA	TÜV
3H, 3Y	3, 3YHH	3YH5	3YH	3, 3YH5	3YH5	+

Chemical composition (w%), typical, all weld metal

C	Mn	Si	H_{DM}
0.09	1.1	0.6	5 ml/100

Mechanical properties, all weld metal

	Condition	Yield strength (N/mm^2)	Tensile strength (N/mm^2)	Elongation (%)	Impact ISO-V(J) -20 °C	-29 °C	-30°C	-40°C
Required: AWS A5.1		min. 400	min. 483	min. 22		min. 27		
ISO 2560-A		min. 460	530-680	min. 20			min. 47	
Typical values	AW	550	635	25	115		85	65

Packaging and available sizes

	Diameter (mm)	2.5	3.2	3.2	4.0	4.0	5.0
	Length (mm)	350	350	450	350	450	450
Unit: box	Pieces / unit	175	115	115	85	85	55
	Net weight/unit (kg)	3.9	4.0	5.2	4.6	5.7	6.0

Identification Imprint: 7018 / BASO 49 Tip Color: none

Baso® 49: rev. EN 21

Materials to be welded

Steel grades/Code	Type
General structural steel	
EN 10025	S185, S235, S275, S355
Ship plates	
ASTM A131	Grade A, B, D, AH32 to EH40
Cast steel	
EN 10213-2	GP240R
Pipe material	
EN 10208-1	L210, L240, L290, L360
EN 10208-2	L240, L290, L360, L415
API 5LX	X42, X46, X52, X60
EN 10216-1/	P235T1, P235T2, P275T1
EN 10217-1	P275T2, P355N
Boiler & pressure vessel steel	
EN 10028-2	P235GH, P265GH, P295GH, P355GH
Fine grained steel	
EN 10113-2	S275, S275, S355, S420
EN 10113-3	S275, S355, S420

Calculation data

Sizes Diam. x length (mm)	Current range (A)	Current type (s)*	Arc time - per electrode at max. current - E(kJ)	Energy - per electrode at max. current - H(kg/h)	Dep.rate - per electrode at max. current - (kg)	Weight/ 1000 pcs. B	Electrodes/ kg weldmetal 1/N	kg Electrodes/ kg weldmetal
2.5 x 350	70 - 80	DC+	58	120	0.85	23.1	73	1.7
3.2 x 350	110 - 130	DC+	68	194	1.3	36.8	41	1.5
4.0 x 450	140 - 180	DC+	98	429	1.8	69.5	20	1.4
5.0 x 450	160 - 240	DC+	117	619	2.3	107.3	13	1.4

* stub end 35 mm

Welding parameters, optimum fill passes

Welding positions Diameter (mm)	PA/1G	PB/2F	PC/2G	PF/3G up	PE/4G
2.5	95A	95A	90A	90A	85A
3.2	140A	130A	130A	120A	120A
4.0	180A	180A	180A	160A	150A
5.0	230A	230A	230A	180A	

Remarks/ Application advice

Electrodes after removal from cardboard boxes redry 2-4h 350 ± 25°C