

Basic electrode

Classification

AWS A5.1 : E7018 H4R
ISO 2560-A : E 42 3 B 32 H5

General description

Basic, very low hydrogen electrode ($H_{DM} < 4\text{ml}/100\text{g}$)

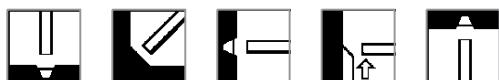
Recovery 120%

Excellent weldability even on AC in all positions

Good impact toughness at -30°C

Excellent X-ray soundness

Welding positions



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

Current type

AC / DC electr. + / -

Approvals

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

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

C	Mn	Si	H_{DM}
0.08	1.2	0.5	4 ml/100 g

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
Required: AWS A5.1		min. 400	min. 483	min. 22		min. 27	
ISO 2560-A		min. 420	500-640	min. 20			min. 47
Typical values	AW	540	600	26	150		

Packaging, available sizes and identification

	Diameter (mm)	2.5			3.2		4.0	
		350	350	450	350	450	450	
Unit: box	Pieces / unit (nominal)	135	120	120	85	85	55	
	Net weight/unit (kg)	2.5	4.5	6.0	4.6	5.9	6.0	

Identification

Imprint: 7018 / BASO 120

Tip colour: silver

Baso® 120: rev. EN 20

Materials to be welded

Steel	Code	Type
General structural steel	EN 10025	S185, S235, S275, S355
Ship plates	ASTM A131	Grade A, B, D, AH32 to EH36.
Cast steel	EN 10213-2	GP240R
Pipe material	EN 10208-1	L210, L240, L290, L360
	EN 10208-2	L240, L290, L360, L415, L445
	API 5LX	X42, X46, X52, X60
	EN 10216-1/ EN 10217-1	P235T1, P235T2, P275T1 P275T2, P355N
	EN 10028-2	P235GH, P265GH, P295GH, P355GH
Boiler & pressure vessel steel		
Fine grained steel	EN 10113-2	S275, S355, S420
	EN 10113-3	S275, S355, S420

Calculation Data

Sizes Diam. x length (mm)	Current range (A)	Current type	Arc time - per electrode at max. current - (s)*	Energy E(kJ)	Dep.rate H(kg/h)	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal B	kg Electrodes/ kg weldmetal 1/N
2.5 x 350	60 - 80	AC	55	121	0.8	19.1	85	1.61
3.2 x 350	90 - 140	AC	62	229	1.3	37.1	44	1.64
3.2 x 450	90 - 140	AC	74	275	1.5	50.1	33	1.67
4.0 x 350	120 - 160	AC	63	338	1.8	54.4	32	1.72
4.0 x 450	120 - 160	DC+	85	391	1.9	69.5	22	1.52
5.0 x 450	160 - 240	AC	99	616	2.6	108.8	14	1.54
5.0 x 450	160 - 240	DC+	100	625	2.6	108.8	14	1.52

* stub end 35 mm

Welding parameters, optimum fill passes

Welding position Diameter (mm)	1 G Current (A)	PB/2F	PC/2G	PF/3G up	PE/4G
2.5	80	80	85	85	80
3.2	145	120	140	120	125
4.0	175	155	170	165	145
5.0	235	220	210	195	

Application Advice

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