

Basic electrode

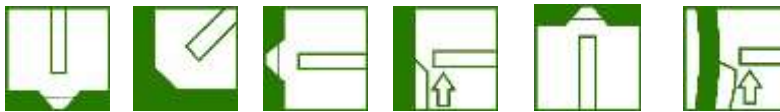
Classification

AWS A5.1 :E 7018
EN 499:1994 :E 42 4 B 42 H10

General description

Basic, low hydrogen electrode ($H_{DM} < 10\text{ml}/100\text{g}$)
Recovery 120%
Good weldability in all position except for vertical-down
Good impact toughness at -40°C
Excellent X-ray soundness

Welding positions



ISO/ASME PA/1G PB/2F PC/2G PF/3G up PE/4G PF/5G up

Current type

DC electr.+/-

Approvals

ABS 4Y40H5	BV 4Y40HHH	DNV 4Y40H5	GL +	LR 4Y40H5	RINA 4Y40H5	TÜV +
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Chemical composition (w%), typical, all weld metal

C	Mn	Si
0.08	1.1	0.5

Mechanical properties, all weld metal

	Condition	Yield strength, (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Impact (ISO), J		
					+20°C	-20°C	-40°C
Required	AWS A5.1 ISO 2560-A	min.400 min.420	min.483 500-640	min.22 min.20		min.27	min.47
Typical values after welding	AW	490	560	27	190	160	90

Packaging, available sizes and identification

		2.5	3.2	3.2	4.0	4.0	5.0
	Diameter (mm)						
	Length (mm)	350	350	450	350	450	450
Unit:	Pieces / unit (nominal)	135	120	120	85	85	55
Box	Net weight/unit (kg)	2.5	4.5	6.0	4.6	5.9	6.0

Identification Imprint: Elex[®] B 7018 Tip colour: silver

Elex[®] B 7018 :rev. EN 20

Materials to be welded

Steel	Code	Type
General structural steel	EN 10025	S185, S235, S275, S355 S235JR-E335, S235J2G3-S355J2G3
Ship plates	ASTM A131	Grade A, B, D, AH32 to EH36
Cast steel	EN 10213-2	GP 240R
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-P355T1, P235T2, P355T2, P275T1 P275T2, P355N
	EN 10028-2	P235GH, P265GH, P295GH, P355GH
Boiler & pressure vessel steel	EN 10113-2	S275, S355, S420
Fine grained steel	EN 10113-3	S275, S355, S420

Calculation Data

Sizes Diam.x length (mm)	Current range (A)	Curr ent 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/ 1 kg weldmetal (1/N)
2.5x350	80-110	DC+	59	132	0.9	22.3	71	1.59
3.2x350	100-140	DC+	65	221	1.2	34.8	48	1.66
3.2x450	100-140	DC+	75	272	1.4	45.2	36	1.61
4.0x350	130-180	DC+	64	313	1.9	51.3	29	1.51
4.0x450	130-190	DC+	77	410	2.2	66.3	21	1.41
5.0x450	180-230	DC+	84	657	3.0	101.8	14	1.43

* stub end = 35 mm

Welding parameters, optimum fill passes

Welding position Diameter (mm)	PA/1G Current (A)	PB/2 F	PC/2G	PF/3G up	PE/4G	PF/5G up
2.5	80	80	85	85	80	80
3.2	120	115	115	115	125	120
4.0	175	180	180	180	160	140
5.0	230	230	230	230	210	

Application Advice

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