Basic electrode

Classification

AWS A5.1 : E7018-1
ISO 2560-A : E 42 4 B 22 H5

General description

Basic very low hydrogen electrode
Excellent for general purpose welding
Good impact values at -46°C

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
4Y40H5	4Y40HHH	4Y40H5	+	4Y40H5	4Y40H5	+

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

C	Mn	Si
0.05	1.0	0.3

Mechanical properties, all weld metal

	Condition	Yield strength (N/mm^2)	Tensile strength (N/mm^2)	Elongation (%)	Impact ISO-V(J) -40°C	Impact ISO-V(J) -46°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	436	533	29	100	90

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	80	80	55
	Net weight/unit (kg)	3.9	4.0	5.2	4.1	5.3	5.6

Identification Imprint: LINCOLN 7018-1 Tip Color: none

LINCOLN® 7018-1: 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	Arc time - per electrode at max. current - (s)*	Energy - per electrode at max. current - E(kJ)	Dep.rate - per electrode at max. current - H(kg/h)	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal B	kg Electrodes/ kg weldmetal 1/N
2.5x350	70-90	DC+	59	132	0.9	22.3	71	1.59
3.2x350	100-130	DC+	65	221	1.2	34.8	48	1.66
3.2x450	100-135	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	220-260	DC+	84	657	3.0	101.8	14	1.43

Welding parameters, optimum fill passes

Welding positions Diameter (mm)	PA/1G	PB/2F	PC/2G	PF/3G up	PE/4G
2,5	80A	85A	85A	85A	80A
3,2	120A	115A	115A	115A	110A
4.0	170A	180A	180A	180A	160A
5.0	240A	250A	250A	250A	230A

Remarks/ Application advice

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