

Low temperature basic electrode

Classification

AWS A5.5 : E7018-G-H4R ¹⁾
 ISO 2560-A : E 50 6 Mn1Ni B 32 H5
¹⁾ meet also AWS A5.5: E8018-G-H4R

General description

The basic all position offshore electrode with max. 1% Ni
 Excellent mechanical properties (impact at -60°C)
 Good CTOD at -10°C
 Extremely low hydrogen content
 110 - 120% recovery
 Weldable on AC and DC
 Vacuum sealed Sahara ReadyPack®: H_{DM} < 3 ml/100g
 Also available in carton boxes

Welding positions



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

Current type

AC / DC + / -

Approvals

ABS	BV	DNV	GL	LR	RINA	RMRS	TÜV
3Y	UP	5Y46H5	6Y46H10	5Y40H5	4YH5	3-3YH5	+

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

C	Mn	Si	P	S	Ni	H _{DM}
0.05	1.5	0.4	0.01	0.01	0.9	2 ml/100g

Mechanical properties, all weld metal

	Condition	0.2% Proof strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Impact ISO-V(J)	
					-20°C	-60°C
Required: AWS5.5		min. 390	min. 480	min. 25	not required	
ISO 2560-A		min. 500	560-720	min. 18	min. 47	
Typical values	AW	550	640	24	150	90
CTOD value at -10°C > 0.25 mm						

Packaging and available sizes

	Diameter (mm)	Length (mm)	Unit: Box					Unit: SRP	
			Pieces / unit	Net weight/unit (kg)	Pieces / unit	Net weight/unit (kg)			
	2.5	350	135	2.7	90	54	1.4	55	2.5
	3.0	350	90	2.8	120	50	1.5	85	2.0
	3.2	350	120	4.7	120	50	1.9	85	2.0
	4.0	450	85	5.8	85	28	2.4	28	2.5
	4.0	450	85	4.4	85	28	1.5	28	2.5

Identification

Imprint: 7018-G / KRYO 1

Tip Color: purple

Kryo® 1: rev. EN 21

Materials to be welded

Steel grades/Code	Type
General structural steel	
EN 10025	S275, S355
Ship plates	
ASTM A131	Grade A, B, D, AH32 to EH40
Cast steel	
EN 10213-2	GP 240R
Pipe material	
EN 10208-1	L290 GA, L360 GA
EN 10208-2	L290, L360, L415, L445
API 5LX	X42, X46, X52, X60, X65
EN 10216-1	P275 T1
EN 10217-1	P275 T2, P355 N
Fine grained steel	
EN 10113-2	S275, S355, S420, S460
EN 10113-3	S275, S355, S420, S460
EN 10137-2	S460

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	55 - 80	DC+	59	85	0.72	19.3	86	1.65
3.0 x 350	70 - 110	DC+	74	256	0.93	30.2	52	1.58
3.2 x 350	80 - 140	DC+	66	220	1.2	37.7	48	1.79
3.2 x 450	80 - 140	DC+	78	259	1.3	48.7	35	1.72
4.0 x 350	120 - 170	DC+	77	355	1.6	54.1	29	1.59
4.0 x 450	120 - 170	DC+	90	450	1.8	68.4	23	1.56
5.0 x 450	180 - 240	DC+	104	784	2.4	105.2	15	1.53

* stub end 35 mm

Welding parameters, optimum fill passes

Welding positions Diameter (mm)	PA/1G	PB/2F	PC/2G	PF/3G up	PE/4G	PF/5G up
2.5	80A	80A	80A	80A	80A	80A
3.0	110A	110A	115A	110A	105A	110A
3.2	140A	120A	145A	120A	120A	120A
4.0	150A	140A	150A	140A	135A	140A
5.0	220A	210A	210A	170A		

Remarks/ Application advice

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