

## Low temperature basic electrode

### Classification

AWS A5.5 : E8016-G-H4R  
ISO 2560-A : E 50 6 Mn1Ni B 12 H5

### General description

The basic all position offshore electrode with max. 1% Ni  
Thin coated electrode, easy weld pool control  
Excellent mechanical properties (impact at -60°C)  
Good CTOD at -10°C  
Extremely low hydrogen content  
Weldable on AC and DC  
Only available in vacuum sealed Sahara ReadyPack® (SRP):  $H_{DM} < 3 \text{ ml/100g}$

### Welding positions



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

### Current type

AC / DC + / -

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

C	Mn	Si	P	S	Ni	$H_{DM}$
0.07	1.7	0.5	0.02	0.005	0.9	2 ml/100 g

### Mechanical properties, all weld metal

	Condition	0.2% Proof strength (N/mm <sup>2</sup> )	Tensile strength (N/mm <sup>2</sup> )	Elongation (%)	Impact ISO-V(J)	
					-40°C	-60°C
Required: AWS A5.5		min. 460	min. 550	min. 19	not required	
ISO 2560-A		min. 500	560-720	min. 18		min. 47
Typical values	AW	570	650	24	95	60
CTOD value at -10°C > 0.25 mm						

### Packaging and available sizes

	Diameter (mm)	2.5	3.2	4.0	5.0
	Length (mm)	350	450	450	450
Unit: SRP	Pieces / unit	45	56	30	23
	Net weight/unit (kg)	0.9	2.3	1.9	2.3

### Identification

Imprint: 8016-G / KRYO 1N

Tip Color: red

Kryo® 1N: rev. EN 21

**Materials to be welded**

Steel grades/Code	Type
<b>General structural steel</b>	
EN 10025	S275, S355
<b>Ship plates</b>	
ASTM A131	Grade A, B, D, AH32 to EH40
<b>Cast steel</b>	
EN 10213-2	GP 240R
<b>Pipe material</b>	
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
<b>Fine grained steel</b>	
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	60 - 95	DC+	50	106	0.82	19.2	90	1.71
3.2 x 450	80 - 145	DC+	68	256	1.2	40.1	43	1.73
4.0 x 450	120 - 190	DC+	82	436	1.7	63.6	26	1.65
5.0 x 450	175 - 230							

\* 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	75A	70A	75A	70A	75A	80A
3.0	100A	110A	100A	100A	100A	110A
4.0	150A	140A	130A	125A	125A	120A