

# High strength basic electrode

## Classification

AWS A5.5 : E9018-G-H4  
EN 757 : E 55 4 1NiMo B 32 H5

## General description

Basic all position extremely low hydrogen electrode  
For high strength steel grades (UTS 640-735 N/mm<sup>2</sup>), root passes in HY 100 steel  
Good impact values at -40°C  
DC welding preferred  
115 - 120% recovery  
Also available in vacuum sealed Sahara ReadyPack® (SRP): H<sub>DM</sub> < 3 ml/100g

## Welding positions



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

## Current type

AC / DC + / -

## Approvals

DNV TÜV  
4Y50H5 +

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

C	Mn	Si	P	S	Ni	Mo	H <sub>DM</sub>
0.06	1.2	0.4	0.014	0.009	1.0	0.4	2 ml/100g

## 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)		
					-20°C	-40°C	-46°C
Required: AWS A5.5		min. 530	min. 620	min. 17	not required		
EN 757		min. 550	610-780	min. 18	min. 47		
Typical values	AW	600	655	24	90 60		

## Packaging and available sizes

	Diameter (mm)	2.5	3.2	4.0	4.0	5.0
	Length (mm)	350	350	350	450	450
Unit: Box	Pieces / unit	110	120	85	55	
	Net weight/unit (kg)	2.5	4.6	4.6	5.8	
Unit: SRP	Pieces / unit	64	50	28	28	23
	Net weight/unit (kg)	1.5	2.0	1.5	2.0	2.4

## Identification

Imprint: 9018-G / CONARC 70G

Tip Color: light green

Conarc® 70G: rev. EN 21

**Materials to be welded**

Steel grades/Code	Type
<b>Boiler &amp; pressure vessel steel (Reactor steels incl. Q &amp; T steels)</b>	
DIN	20MnMoNi55, 22NiMoCr37, 15NiCuMoNb5-S1 GS-18NiMoCr37
ASTM	A508CL2, A508CL3, A533CL.1Gr.B / C, A533CL.2Gr.B / C
<b>Creep resistant steels</b>	
	15NiCuMoN65 (WB36), 17MnMoV64(WB35)
<b>Pipe material</b>	
API 5LX	X65, X70
EN 10208-2	L480, L550
<b>Fine grained steel</b>	
EN 10137-2	S460, S500, S550 Root runs and fillet welds in S620 and S690

**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 - 100	DC+	67	121	0.7	19.5	75	1.47
3.2 x 350	80 - 130	DC+	70	234	1.3	37.5	41	1.56
4.0 x 350	120 - 180	DC+	74	343	1.7	55.4	29	1.59
5.0 x 450	160 - 240	DC+	106	573	2.5	106.4	14	1.43

\* 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	75A	80A	85A	75A	75A
3.2	130A	120A	135A	120A	115A	120A
4.0	155A	145A	160A	145A	140A	140A
5.0	225A	220A	210A			

**Remarks/ Application advice**

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