

## High strength basic electrode

### Classification

AWS A5.5-96 : E11018M H4  
EN 757-97 : E 69 5 Z B 32 H5

### General description

Basic all position extremely low hydrogen electrode  $H_{DM} < 3 \text{ ml/100g (SRP)}$

Weldable on AC and DC

110-115% recovery

Good impact values at  $-51^\circ\text{C}$

Meets the requirements of military specifications

Suitable for welding submarines high strength steels (UTS up to 800 N/mm<sup>2</sup>)

Also available in vacuum sealed Sahara ReadyPack® (SRP)  $H_{DM} < 3 \text{ ml/100g}$

### Welding positions



PA/1G



PB/2F



PC/2G



PF/3G up



PE/4G



PF/5G up

ISO/ASME

### Current type

AC / DC electr. + / -

### Approvals

ABS	CTL	DB	LR
+	+	+	4Y69H5

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

C	Mn	Si	P	S	Ni	Mo	$H_{DM}$
0.06	1.5	0.4	0.015	0.01	2.2	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)		
				-40°C	-50°C	-51°C
Required: AWSA5.5-96	680-760*	min. 760	min. 20			min. 27
EN 757-97	min. 690	760-960	min. 17		min. 47	
Typical values	AW 750	785	22	100	80	

\* Diam. 2.5 max. 795 N/mm<sup>2</sup>

### Packaging, available sizes and identification

	Diameter (mm)	2.5	3.2	4.0	5.0
	Length (mm)	350	350	350	450
Unit: SRP	Pieces / unit (nominal)	70	50	28	23
	Net weight/unit (kg)	1.4	1.9	1.5	2.5
Unit: Box	Pieces / unit	225	125	90	60
	Net weight/unit (kg)	4.4	4.5	5.0	6.3

Identification Imprint: 11018-M/Conarc80 Tip colour: gold

Conarc® 80: rev. EN 15

**Materials to be welded**

Steel	Code	Type
Pipe material	API-5LX	X70, X75
Fine grained steel	EN 10137-2	S620, S690

root runs and fillet welds in S890

**Calculation Data**

Sizes Diam. x length (mm)	Current range A)	Current type	Arc time (s)*	Energy - per electrode at max. current - 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 - 80	DC+	55	99	0.8	19.5	82	1.61
3.2 x 350	80 - 130	DC+	78	261	1.1	36.5	43	1.55
4.0 x 350	120 - 180	DC+	75	356	1.6	53.2	30	1.59
5.0 x 450	160 - 240	DC+	116	627	2.3	105.1	14	1.45

\* stub end 35mm

**Welding parameters, optimum fill passes**

Welding position: Diameter (mm)	PA/1G Current (A)	PB/2F	PC/2G	PF/3G up	PE/4G	PF/5G up
2.5	75	75	75	80	75	80
3.2	130	120	135	120	115	120
4.0	145	145	155	140	140	140
5.0	225	230	210			

**Application Advice**

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