

# High strength basic electrode

## Classification

AWS A5.5 : E9018M-H4  
EN 757 : E 55 4 Z B 32 H5

## General description

Basic all position extremely low hydrogen electrode  
For welding high strength steel grades (UTS 540-640 N/mm<sup>2</sup>)  
Good impact values at -51°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

ABS	BV	DNV	GL	LR	TÜV
3Y	4Y50	4Y50H5	4YH10	+	+

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

C	Mn	Si	P	S	Ni	Mo	H <sub>DM</sub>
0.06	1.0	0.4	0.015	0.010	1.6	0.3	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	-51°C
Required: AWSA5.5		540-620*	min. 620	min. 24			min. 27
EN 757		min. 550	610-780	min. 18		min. 47	
Typical values	AW	600	670	25		98	
	SR: 1h/620°C	550	640	24	90		40

\* Dia. 2.5 mm max 655 N/mm<sup>2</sup>

## Packaging and available sizes

	Diameter (mm)	2.5	3.2	4.0	5.0
	Length (mm)	350	350	350	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	65	50	28	23
	Net weight/unit (kg)	1.4	2.0	1.5	2.6

## Identification

Imprint: 9018-M / CONARC 60G

Tip Color: red

Conarc® 60G: rev. EN 21

**Materials to be welded**

Steel grades/Code	Type
<b>General structural steel</b>	
EN 10025	S355
<b>Pipe material</b>	
EN 10208-2	L360, L415, L445, L480
API 5 LX	X52, X56, X60, X65, X70
<b>Creep resistant steels</b>	
EN 10028-2	16 Mo 3
<b>Fine grained steel</b>	
EN 10113-3	S420 M (L), S460 M (L), S420 N (L), S460 N (L)
EN 10137-2	S460, S500
<b>Weather resisting steels</b>	
EN 10155	S235 J0W S235 J2W S355 J0W S355 J2W S 355 K2G1W

**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+	63	114	0.7	23.5	77	1.80
3.2 x 350	80 - 130	DC+	69	231	1.3	38.3	40	1.52
4.0 x 350	120 - 180	DC+	72	324	1.7	55.8	30	1.66
5.0 x 450	160 - 240	DC+	119	760	2.2	105.2	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