

High strength basic electrode

Classification

AWS A5.5-96 : E12018-G H4
EN 757-97 : E 69 5 Mn2NiCrMo B 32 H5

General description

Basic all position extremely low hydrogen electrode $H_{DM} < 3\text{ml}/100\text{g}$
For steels with a tensile strength UTS of max. 835 N/mm^2
For high strength steels such as T1, HY 100, Naxtra 70, HRS 650, Dillimax. 690
Good impact toughness down to -50°C
Only available in vacuum sealed Sahara ReadyPack® (SRP) $H_{DM} < 3\text{ ml}/100\text{g}$

Welding positions



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

Current type

AC / DC electr. + / -

Approvals

ABS	CTL	DNV
+	+	4Y69H5

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

C	Mn	Mn	Si	P	S	Cr	Ni	Mo	H_{DM}		
0.06	03.2	1.3	≥ 04.0	1.6	0.3	0.01	0.01	0.4	2.0	0.4	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)	
					-40°C	-50°C
Required: AWS A5.5-96		min. 740	min. 830	min. 14	not required	
EN 757-97		min. 690	760-960	min. 17	min. 47	
Typical values	AW	840	890	21	80	60
	SR: 1h/620°C	790	850	20	70	60

Packaging, available sizes and identification

	Diameter (mm)	3.2	4.0	5.0
	Length (mm)	350	350	450
Unit: SRP	Pieces / unit	50	28	23
	Net weight/unit (kg)	1.9	1.5	2.5

Identification Imprint: 12018-G/Conarc 85

Tip colour: light blue

Conarc® 85: rev. EN 15

Materials to be welded

Steel	Code	Type
Pipe material	API-5LX	X70, X75, X80
Fine grained steel	EN 10137-2	S690

root runs and fillet welds in S890

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
3.2 x 350	80 - 130	DC+	69	219	1.0	37.5	50	1.89
4.0 x 350	120 - 180	DC+	68	321	1.5	53.2	35	1.87
5.0 x 450	160 - 240	DC+	106	632	2.0	106.7	17	1.81

* 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
3.2	135	130	140	120	120	120
4.0	155	145	155	140	140	140
5.0	225	220	215			