EMR SAHARA®

Conarc® 70G

High strength basic electrode

SMAW

Classification

AWS A5.5-96 : E9018-G H4
EN 757-97 : E 55 4 1NiMo B 32 H5

General description

Basic all position extremely low hydrogen electrode H_{DM} <3ml/100g (SRP)
For high strength steel grades (UTS 640-735 N/mm²), root passes in HY 100 steel
Good impact at -40°C
DC welding preferred
115-120% recovery
Also available in vacuum sealed Sahara ReadyPack® (SRP) H_{DM} <3 ml/100g

Welding positions

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

Current type

AC / DC electr. + / -

Approvals

CTL	DNV	TÜV
+	4Y50H5	+

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

C	Mn	Si	P	S	Ni	Mo	H_{DM}
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/mm²)	Tensile strength (N/mm²)	Elongation (%)	Impact ISO-V(J) -20°C	-40°C	-46°C
Required: AWS A5.5-96		min. 530	min. 620	min. 17	not required		
EN 757-97		min. 550	610-780	min. 18		min. 47	
Typical values	AW	600	655	24		90	60
	SR: 15h/580°C	550	640	24	90		50

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	64	50	28	23
	Net weight/unit (kg)	1.5	2.0	1.5	2.4
Unit: Box	Pieces/unit (normal)		120	85	55
	Net weight/unit (kg)		4.6	4.6	5.8

Identification Imprint: 9018-G/Conarc 70G Tip colour: light green

Conarc® 70G: rev. EN 15

LINCOLN® ELECTRIC

Conarc® 70G

Materials to be welded

Steel	Code	Type
Boiler & pressure vessel steel	DIN	20MnMoNi55, 22NiMoCr37,
(Reactor steels)		51NiCuMoNb5-S1
(incl. Q & T steels)		GS-18NiMoCr37
	ASTM	A508CL2, A508CL3,
		A533CL.1Gr.B / C,
		A533CL.2Gr.B / C
Creep resisting steel		15NiCuMoN65 (WB36),
		17MnMoV64(WB35)
Pipe material	API 5LX	X65, X70
	EN 10208-2	L480, L550
Fine grained steel	EN 10137-2	S460, S500, S550
		Root runs and fillet welds in S620 and S690

Calculation Data

Sizes Diam. x length	Current range	Current type	Arc time - per electrode at max. current -	Energy	Dep.rate	Weight/ 1000 pcs.	Electrodes/ kg weldmetal	kg Electrodes/ kg weldmetal
(mm)	A)		(s)*	E(kJ)	H(kg/h)	(kg)	B	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 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	80	75	80	85	75	75
3.2	130	120	135	120	115	120
4.0	155	145	160	145	140	140
5.0	225	220	210			

Application Advice

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

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