

Conarc® 49C

EMR
SAHARA®

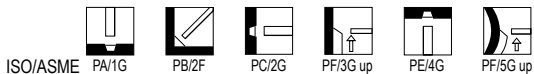
CLASSIFICATION

AWS A5.1 : E7018-1 H4R
ISO 2560-A : E 46 4 B 32 H5

GENERAL DESCRIPTION

Basic extremely low hydrogen electrode
Reliable impact toughness -40°C, good CTOD at -10°C
The off-shore electrode when Ni-alloying is not allowed
100 - 120% recovery
Good pipe welding properties
Excellent X-ray soundness
Also available in vacuum sealed Sahara ReadyPack®(SRP)

WELDING POSITIONS



CURRENT TYPE

AC / DC +/-

APPROVALS

ABS	BV	DNV	LR	GL	RMRS	TÜV
3H,3Y	3YHH	3YH5	3,3YH5	3YH10	3,3YH5	+

CHEMICAL COMPOSITION (W%), TYPICAL, ALL WELD METAL

C	Mn	Si	P	S	H _{DM}
0.06	1.4	0.3	0.015	0.01	2 ml/100 g

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Condition	Yield strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Impact ISO-V(J)		
				-20°C	-40°C	-50°C
Required: AWS A5.1 ISO 2560-A	min. 400	min. 483	min. 22			min. 27
Typical values AW	min. 460 480	530-680 580	min. 20 28	200	min. 47 170	100

PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	2.5	3.0	3.2	3.2	4.0	4.0	5.0	6.0
	Length (mm)	350	350	350	450	350	450	450	450
Unit: carton box	Pieces / unit	135	80	120	120	85	85	55	46
	Net weight/unit (kg)	2.7	2.4	4.2	5.8	4.5	5.7	6.0	6.5
Unit: SRP	Pieces / unit	70	54	50	50	28	28	23	21
	Net weight/unit (kg)	1.4	1.5	2.0	2.5	1.8	2.0	2.6	3.0

Identification Imprint: 7018-1/CONARC 49C Tip Color: grey

Conarc® 49C: rev. EN 24

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MATERIALS TO BE WELDED

Steel grades/Code	Type
General structural steels	
EN 10025	S185, S235, S275, S355
Ship plates	
ASTM A 131	Grade A, B, D, AH32 to EH40
Cast steels	
EN 10213-2	G P 240R
Pipe material	
EN 10208-1	L210, L240, L290, L360
EN 10208-2	L240, L290, L360, L415, L445
API 5LX	X42, X46, X52, X60, X65
EN 10216-1	P235T1, P235T2, P275T1
EN 10217-1	P275T2, P355N
Boiler & pressure vessel steel	
EN 10028-2	P235GH, P265GH, P295GH, P355GH
Fine grained steels	
EN 10025 part 3	S275, S355, S420, S460
EN 10025 part 4	S275, S355, S420, S460

CALCULATION DATA

Sizes		Current type	Arc time - per electrode at max. current - (S)*	Energy E(kJ)	Dep. rate H(kg/h)	Weight/ 1000 pcs (kg)	Electrodes/ kg weld- metal B	kg electrodes/ kg weldmetal 1/N
Diam. x length (mm)	Current range (A)							
2.5x350	55-80	DC+	55	99	0.78	19.6	84	1.65
3.0x350	70-110	DC+	53	193	1.2	30.4	58	1.77
3.2x350	80-130	DC+	65	217	1.2	37.9	45	1.69
4.0x350	120-160	DC+	75	348	1.6	54.2	30	1.61
4.0x450	120-160	DC+	100	444	1.7	70.4	21	1.47
5.0x450	180-240	DC+	90	632	2.6	105.6	15	1.60
6.0x450	250-330	DC+	106	976	3.5	136.9	10	1.33

*Stub end 35mm

WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions					
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G	PF/5Gup
2.5	80A	80A	80A	85A	80A	80A
3.0	110A	110A	115A	110A	105A	110A
3.2	140A	120A	145A	120A	120A	120A
4.0	150A	140A	150A	140A	135A	140A
5.0	220A	210A	210A	170A		
6.0	300A	290A				

REMARKS / APPLICATION ADVICE

Electrodes after removal from cardboard boxes redry 2-4h 350 ±25°C
Best choice : 3.0 x 350mm for rootlayer welding in pipes