

## Basic electrode

## Classification

AWS A5.1-91 : E7018-1 H4R  
EN 499-94 : E 46 4 B 42 H5

## General description

Basic coated, low hydrogen electrode with  $H_{DM}$  5ml/100 g

Recovery 130%

Excellent weldability on DC+ as well as on AC in all positions, especially overhead and vertical up

Excellent impact toughness down to -40°C

Excellent X-ray soundness

## Welding positions



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

## Current type

AC / DC electr. +

## Approvals

DNV

4YH5

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

C	Mn	Si	$H_{DM}$
0.05	1.3	0.3	4 ml/100 g

## Mechanical properties, all weld metal

	Condition	Yield strength (N/mm <sup>2</sup> )	Tensile strength (N/mm <sup>2</sup> )	Elongation (%)	Impact ISO-V(J)	
					-40°C	-46°C
Required: AWS A5.1-91		min. 399	min. 482	min. 22		min. 27
EN 499-94		min. 460	530-680	min. 20	min. 47	
Typical values	AW	470	570	27	103	

## Packaging, available sizes and identification

	Diameter (mm)	2.0	2.5	3.2	3.2	4.0	4.0	5.0	6.0
	Length (mm)	300	350	350	450	350	450	450	450
Unit: box	Pieces / unit (nominal)	146	110	126	110	95	82	58	46
	Net weight/unit (kg)	1.9	2.5	5	5.7	5.4	6.0	6.3	6.5

Identification Imprint: 7018-1/Conarc 48

Tip colour: orange

Conarc® 48: rev. EN 15

## Materials to be welded

Steel	Code	Type
General structural steel	EN 10025	S185, S235, S275, S355
Ship plates	ASTM A131	Grade A, B, D, AH32 to EH40
Cast steel	EN 10213-2	GP240R
Pipe material	EN 10208-1	L210, L240, L290, L360
	EN 10208-2	L240, L290, L360, L415, L445
	API 5LX	X42, X46, X52, X60
	EN 10216-1/ EN 10217-1	P235T1, P235T2, P275T1 P275T2, P355N
	EN 10028-2	P235GH, P265GH, P295GH, P355GH
Boiler & pressure vessel steel		
Fine grained steel	EN 10113-2	S275, S355, S420
	EN 10113-3	S275, S355, S420

## 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
2.0 x 300	50 - 80	DC+	53		0.6	14.3	123	1.76
2.5 x 350	80 - 110	DC+	64		0.8	23.1	67	1.55
3.2 x 350	95 - 150	DC+	67		1.3	40.0	40	1.60
3.2 x 450	95 - 150	DC+	-		-	-	-	-
4.0 x 350	125 - 210	DC+	83		1.7	57.6	26	1.50
4.0 x 450	125 - 210	DC+	95		1.8	73.4	21	1.54
5.0 x 450	190 - 270							
6.0 x 450	220 - 310							

\* stub end 35 mm

## Application Advice

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