

CLASSIFICATION

AWS A5.1	E7016-1 H4R	A-Nr	1
ISO 2560-A	E 42 4 B 12 H5	F-Nr	4
		9606 FM	1

GENERAL DESCRIPTION

Basic extremely low hydrogen electrode

Good impact values down to -40 °C

Good CTOD at -10°C, meets offshore requirements

Excellent root pass electrode (diam. 2.5 and 3.2 mm)

Also available in vacuum sealed Sahara ReadyPack® (SRP): HDM < 3 ml/100g

WELDING POSITIONS (ISO/ASME)



PA/1G



PE/4G



PC/2G



PF/3Gu



PH/5Gu

CURRENT TYPE

AC/DC +/-

APPROVALS

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

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

C	Mn	Si	P	S	HDM
0.06	1.4	0.5	0.015	0.010	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	-46°C
Required: AWS A5.1 ISO 2560-A Typical values	min. 400 min. 420	min. 490 500-640	min. 22 min. 20			
AW	520	575	28	115	min. 47 80	min. 27 60

CTOD value at -10°C > 0.25mm

PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	2.5		3.2		4.0		5.0	
		Length (mm)	350	350	450	350	450	450	
Carton + PE foil	Pieces / unit	136	150	-	100	-	-	-	-
	Net weight/unit (kg)	2.7	4.7	-	4.6	-	-	-	-
SRP	Pieces / unit	70	56	56	-	30	23		
	Net weight/unit (kg)	1.4	1.8	2.3	-	1.8	2.6		

Identification Imprint: 7016-1 / CONARC 51

Tip Color: gold

Conarc® 51: rev. C-EN27-01/02/16

Conarc® 51

EXAMPLES OF 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	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	P235T1, P235T2, P275T1
EN 10217-1	P275T2, P355N
Boiler & pressure vessel steels	
EN 10028-2	P235GH, P265GH, P295GH, P355GH
Fine grained steels	
EN 10025 part 3	S275, S355, S420
EN 10025 part 4	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
2.5x350		40-80	DC+	53	123	0.8	19.6	86	1.68
3.2x350		70-120	DC+	62	178	1.0	30.8	57	1.74
3.2x450		70-120							
4.0x350		100-160	DC+	71	306	1.4	48.0	37	1.78
4.0x450		100-160							
5.0x450		180-240	DC+	104	702	2.6	103.0	13	1.36

*Stub end 35mm

WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions				
	PA/1G	PC/2G	PF/3Gup	PE/4G	PH/5Gup
2.5	75A	70A	75A	70A	75A
3.2	100A	110A	100A	100A	100A
4.0	150A	140A	130A	125A	125A
5.0	220A	220A	180A		

REMARKS / APPLICATION ADVICE

Redry electrodes 2-4h 350 ±25°C after removal from cardboard boxes