

Basic high recovery electrode

Classification

AWS A5.1-91 : E7028 H4R
EN 499-94 : E 42 4 B 73 H5

General description

Basic, extremely low hydrogen electrode $H_{DM} < 3\text{ ml}/100\text{ g}$ (SRP)

175% recovery and easy slag release

Fillet welds and horizontal V- and X-welds

Reliable impact toughness -40°C , good CTOD at -10°C

Excellent X-ray quality

Also 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

Current type

AC / DC electr. + / -

Approvals

ABS	BV	CTL	DNV	GL	LR	RINA	RMRS
3YH5	3,3YHH	+	3YH5	3YH10	3,3YH5	3YH5	3-3YH5

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

C	Mn	Si	H_{DM}
0.08	1.2	0.3	2 ml/100g

Mechanical properties, all weld metal

	Condition	Yield strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Impact ISO-V(J)		
					-18°C	-20°C	-40°C
Required: AWS A5.1-91 EN 499-94		min. 399	min. 482	min. 22	min. 27		min. 47
		min. 420	500-640	min. 20			
Typical values	AW	440	510	30		130	

Packaging, available sizes and identification

	Diameter (mm)	Length (mm)	Unit: box			Unit: SRP		
			Pieces / unit (nominal)	Net weight/unit (kg)	Pieces / unit	Net weight/unit (kg)		
	3.2	450	60	6.0	27	2.0		
	4.0	450	40	6.1	23	2.4		
	5.0	450	40	6.1	19	2.8		
	6.3	450	23	5.4	8	1.9		

Identification Imprint: 7028/Conarc V180

Tip colour: white

Conarc® V180: 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, 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
3.2 x 450	130 - 160	AC	73	337	2.3	68.9	21	1.47
4.0 x 450	170 - 240	AC	70	538	3.6	101.0	14	1.45
5.0 x 450	275 - 330	AC	75	780	4.9	149.7	10	1.45
6.3 x 450	280 - 425	AC	83	1171	7.0	230.4	6	1.43

* stub end 35 mm

Welding parameters, optimum fill passes

Welding position Diameter (mm)	PA/1G Current (A)	PB/2F	PC/2G
3.2	160	140	140
4.0	230	190	190
5.0	300	230	230
6.3	390	280	

Application Advice

Electrodes after removal from cardboard boxes redry 2-4h 350 ± 25°C
Transformers with OCV > 70 V recommended