STANDARD SILICON IRON ANODES 1.4.1

A comprehensive range of BAC Silicon Iron Anodes is available in Rod & Tubular forms to suit impressed current Cathodic Protection of pipelines, tanks and marine structures.

Resistance to corrosion from a wide range of corrosive environments has resulted in the extensive use of standard 14.5% silicon iron alloy with 4.5% added chrome. More than 40 years of experience in the Cathodic Protection industry has given this material a fully proven performance record.

Soundness and Shape of Casting
BAC Silicon Iron Rod anodes are cast by craftsmen under strictly controlled conditions. The casting satisfy the criteria set down in the ASTM E186 (Vol II) regarding porosity. Radiographic examination is used to maintain and guarantee the level of quality.

BAC Silicon Iron Tubular Anodes are centrifugally cast under strictly controlled conditions.

- Premature failure of anodes can frequently be traced to inadequate attention to cable attachment and sealing. The central connection, however, is within the walls of the anode – the anode helps to protect itself. The whole area is sealed with epoxy resin which is used, has been carefully selected of optimum adhesion and chemical resistance.
- The central connection ensures that all the anode material is consumed before the anode system can fail. This extends the life of the groundbeds beyond that of conventional rod anodes.
- While cable attachments can be provided to meet individual customers' requirements, the BAC standard arrangement has the merit of simplicity and has been based on the experience of many years in the service. Under all circumstances, strict quality control is observed. A choice of cable sizes and types is available.

The high surface area weight ratio reduces the number of anodes that are needed to protect any one structure. The greater surface area reduces the current density by almost one third, giving 30% more amp/years than rod anodes.

Alloy Composition

The alloy contains chromium which is better suited to situations where chlorine or other aggressive agents may be generated by electrolysis (e.g. in seawater or in deep well groundbeds).

Analysis (ASTM A518-86 Grade 3)		
	ROD	TUBULAR
	Nominal	ASTM A518-86 Gr.3
Silicon	14.5%	14.20-14.75%
Chromium	4.5%	3.25-5.00%
Manganese	0.75%	1.5% max
Carbon	0.95%	0.7-1.10%
Molybdenum	-	0.20% max
Copper	-	0.5% max
Iron	Balance	Balance

Consumption rates.

The rate of consumption of Silicon Iron Anodes will vary with current density, environment and method of installation.
The following figures are for guidance only.

Environment	Current Density A/m^2	Consumption Rate Kg/Ampere/Year
Fresh Water	10-30	0.15
Salt Water	10-50	0.50
Wet Carbonaceous backfill	10-30	0.10
Dry Carbonaceous backfill	10-30	Negligible

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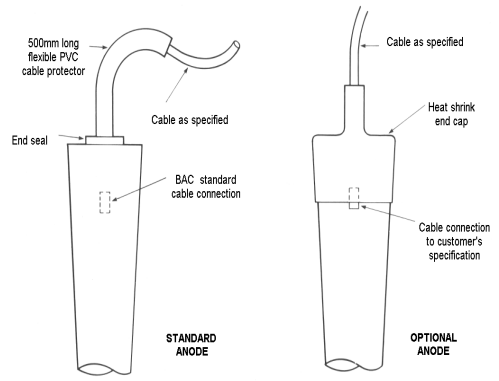
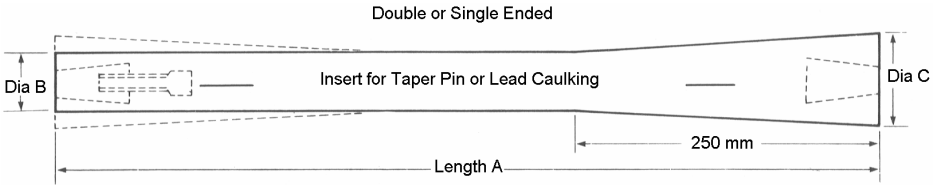
STANDARD SILICON IRON ROD ANODES *1.4.1*





Anode Type	A		B		C		Nominal Surface Area		Amps Output at Varying Current Densities				Approximate Weight	
	mm	ins	mm	ins	mm	ins	m^2	ft^2	10 A/m^2	20 A/m^2	30 A/m^2	40 A/m^2	Kgs	lbs
	915	36	25	1	51	2	0.08	0.9	0.8	1.6	2.4	3.2	3.2	7
	915	36	38	1.5	63	2.5	0.12	1.3	1.2	2.4	3.6	4.8	8.6	19
BS2C	**915**	**36**	**51**	**2**	**76**	**3**	**0.16**	**1.7**	**1.6**	**3.2**	**4.8**	**6.4**	**14.5**	**32**
	915	36	63	2.5	89	3.5	0.2	2.1	2	4	6	8	22.3	49
	915	36	76	3	102	4	1.23	2.5	2.3	4.6	6.9	9.2	31.4	69
	1220	48	25	1	51	2	0.11	1.2	1.1	2.2	3.3	4.4	5.5	12
	1220	48	38	1.5	63	2.5	0.16	1.7	1.6	3.2	4.8	6.4	10	22
BS6C	**1220**	**48**	**51**	**2**	**76**	**3**	**0.2**	**2.2**	**2**	**4**	**6**	**8**	**19.1**	**42**
	1220	48	63	2.5	89	3.5	0.25	2.7	2.5	5	7.5	10	28.6	63
BS8C	**1220**	**48**	**76**	**3**	**102**	**4**	**0.3**	**3.3**	**3**	**6**	**9**	**12**	**40.9**	**90**
	1525	60	25	1	51	2	0.13	1.4	1.3	2.6	3.9	5.2	6.8	15
	1525	60	38	1.5	63	2.5	0.2	2.1	2	4	6	8	13.2	29
BS9C	**1525**	**60**	**51**	**2**	**76**	**3**	**0.25**	**2.7**	**2.5**	**5**	**7.5**	**10**	**22.7**	**50**
	1525	60	63	2.5	89	3.5	0.32	3.4	3.2	6.4	9.6	12.8	35.9	79
BS11C	**1525**	**60**	**76**	**3**	**102**	**4**	**0.38**	**4**	**3.8**	**7.6**	**11.4**	**15.2**	**50.0**	**110**
	1525	60	114	4.5	114	4.5	0.55	5.9	5.5	11	16.5	22	99.1	218
Anode sizes shown in **bold** are standard sizes. Other shapes and sizes of anode available.														

ORDERING DETAILS *1.4.1*

Standard Rod Silicon Iron Anodes

ANODE DIMENSIONS, WEIGHTS AND TYPE		
BS2C	915mm x 51mm	14.5 Kg
BS6C	1220mm x 51mm	19 Kg
BS8C	1220mm x 76mm	38 Kg
BS9C	1524mm x 51mm	22.7 Kg
BS11C	1524mm x 76mm	49.1 Kg

TABLE 1

INSULATION SHEATH (BLACK)	CROSS SECTIONAL SIZE (7 STRAND CORE)	
	10 mm^2	**16 mm^2**
XLPE/PVC	10XP	16XP
PVF/HMWPE	10KH	16KH
EPR/CSP	10EC	16EC

TABLE 2

STANDARD CABLE LENGTHS IN METRES					
1.0	5	10	15	20	30

TABLE 3

How to Order:

Example:
You require a silicon iron anode1220mm x 51mm (19Kg) complete with 16 mm^2 XLPE/PVC black cable 10 metre length.

Step 1: Find the reference number for the 1220mm x 51mm anode type in Table 1 - **BS6C**

Step 2:Select the cable type from Table 2 - **16XP**

Step 3:Choose the cable length from Table 3 – **10**

Therefore your requirement is for **- BS6C - 16XP - 10**