

## GRAPHITE ANODE

### Typical Application

Graphite anodes perform best under Dry Soil conditions, though it operates in Aqueous Environment. The effectiveness of these Anodes are increased with the use of Backfill as it increases the Anode Discharge Surface Area & lowers the Anode -to- Earth Resistance. Graphite Anodes have been successfully used in both Conventional & Deep Ground- Bed applications . They provide excellent Protection in Environments with high Chloride.

### Anode Consumption

Graphite is the most commonly used material as an Anode in the impressed Current Cathodic Protection Industry . It is an excellent Conductor of Electricity , Chemically Resistant and is easy to Machine . Due to its proven long term Performance & Economics, Solid Graphite Anode is very popular in ICCP systems.

With strict Quality Control Guidelines , BSS Tech manages a complete line of Graphite Anode . These Anodes are composed of high quality Petroleum Coke mixed with Coal Tar Binders & extruded into Various diameter Rods. Rods are heated repeatedly over 2,600 C and then cooled .The complete process results in Anodes with high percentage of Carbon, which in turn delivers effective Protection at very low consumption rate . The consumption rate varies between 0.4 and 2.0 lbs. / Amp.year . (The recommended Current Density for the Graphite Anode is 0.5 Amp/ft<sup>2</sup>.)

### Graphite is Porous

To increase the Anode life the pores are filled with Impregnate. Graphite Anodes are treated with a Microcrystalline Wax. This limits any electrochemical activity to the surface of the Anode and reduces any tendency for the reaction to occur in the Pores . This also acts as a barrier against moisture intrusion which could cause deterioration of the Anode and possibly the Anode Connection. An alternate treatment is a Phenolic Resin, which is recommended for use in severe application Environments.

### Fabrication Options

- **Treatment:** Paraffin Wax, Phenolic Resin
- **Moisture Seal:** Epoxy Cap, Heat Shrink Cap, Combination of Both
- **Connections:** Centre Connected, End Connected, Any Depth
- **Cable:** Any Size XLPE / PVC, HMWPE Insulation /Custom made.

### Standard Connection

All Graphite Anodes are precision drilled to Customer's specified depths . The wires are soldered with each Anode assures a quality, fault - free connection . Maximum Electrical Resistance of the connection is 0.0004 & the minimum Pullout Strength is 1000 lbs.

### Sizes & Operating Data

Size	Untreated Weight	Treated Weight	Area(ft <sup>2</sup> )	Recommended Max Amp		
				Backfill	Saltwater	Fresh water
3" x 60"	27#	30#	4.0	1.5 - 2.0	2.0	1.0
4" x 80"	65#	72#	7.0	2.0 - 4.0	4.0	2.0

## IMPRESSED CURRENT ANODE



*Graphite Anode*