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Item # GS-4x80, 4 x 80 Graphite Solid Rod Anode



4 x 80 Graphite Solid Rod Anode

Cathodic protection grade graphite is an especially good material for use as an anode. Graphite is an excellent conductor of electricity, is chemically resistant, and is easy to machine. Excellent long term performance histories and economics have made the solid graphite anode very popular for impressed current systems.

MESA manufactures a complete line of graphite anodes which are produced in accordance with strict quality control guidelines. The anodes are composed of high quality petroleum coke which is mixed with coal tar binders and extruded into various diameter rods. The rods are heated repeatedly at temperatures in excess of 2600 degrees C and then cooled. The end result of this manufacturing process is an anode with a high percentage of carbon, which can deliver effective protection at a relatively low consumption rate. In buried soil electrolytes, this consumption rate varies between 0.4 and 2.0 pounds/amp-year. The recommended current density for graphite anodes is 0.5 amps/square foot.

Because graphite is porous, anode life can be increased by filling the pores with an impregnant. MESA treats its graphite anodes with a microcrystalline wax. This impregnation limits any electrochemical activity to the surface of the anode and reduces any tendency for the reaction to occur in the pores of the anode itself. It also acts as a barrier against moisture intrusion which could cause deterioration of the anode and possibly the anode connection.

SPECIFICATIONS

- Size 4 x 80 in
- Untreated Weight : 65 lb
- Treated Weight: 72 lb
- Area 7.0 ft²
- Max. Recommended Amps for Backfill 2.0 - 4.0
- Max. Recommended Amps for Saltwater 4.0
- Max. Recommended Amps for Freshwater 2.0
- Treatment :Paraffin Wax
- Connections
 - Center Connected
 - End Connected
- Seal/CAP
 - Epoxy Cap
 - Heat Shrink Cap
 - Tri-Seal (Standard)
- Cable
 - #8 or #6 AWG
 - HMWPE Insulation
 - Dual Extrusion Insulation

TYPICAL APPLICATIONS

While graphite anodes will operate in aqueous environments, they perform best under dry soil conditions. Use of a backfill effectively increases the graphite anode's discharge surface area and lowers anode-to-earth resistance. The anodes have been successfully used in both conventional and deep grounded applications, and demonstrate exceptional protection in high chloride environments.

STANDARD CONNECTION

All graphite anodes are precision drilled to customer's specified depths using MESA's custom-built "gun drill". Anode wires secured to lead ferrules are installed in the anodes using a pneumatic press and specialized tooling is automatically regulated to insure sufficient expansion of the ferrule without over stressing the anode. This specialized machinery helps assure a quality, fault-free connection each and every time. The ferrule connection that MESA uses has more than 50 years proven history in the industry. The maximum electrical resistance of the connection is 0.004 ohms and the minimum pullout strength is 1000 pounds (more than double the breaking strength of #8 AWG cable.)