

## Anode Sled

### Product Description

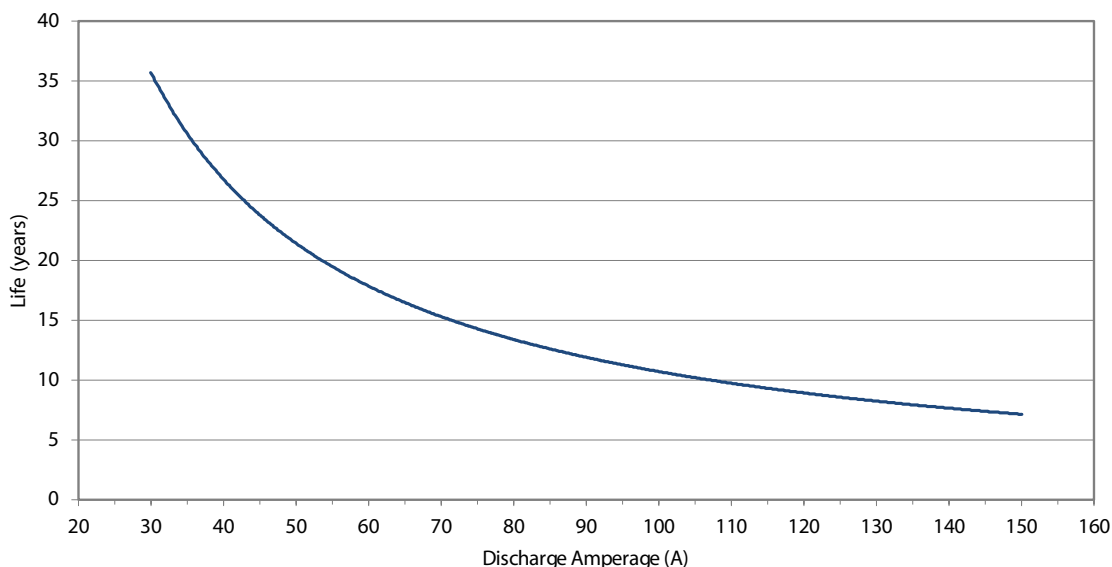
Six, high silicon cast iron (HSCI) anodes, each 315 lb / 140 kg, are securely mounted on a corrosion-resistant frame (sled). The sled weighs approximately 2,000 kg (4,410 lb), depending upon the size and length of shore lead cable. The footprint is nominally 2.1 m x 2.0 m x 0.6 m (7 ft. x 6.5 ft. x 2 ft.).

### Application Information

The anodes are spaced for uniform current discharge and consumption. Although HSCI in sea water can withstand current discharge amperages exceeding 5 Amps / sq. ft. (55 Amps / sq. m), the following factors should be considered.

- Environmental regulations may restrict sled discharge current to lower values. (i.e. less than 1 Volt / meter electric field strength in natural waters).
- Sled life will depend upon the weight of anodes (1,890 lb), the discharge amperage, the anode consumption rate (for sea water, conservatively assume 1.5 lb / Ampere-Year), and the anode utilization (85%).

The following figure illustrates the estimated sled life versus discharge amperage for a consumption rate of 1.5 lb / Ampere-Year.



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## Sled Construction

Each 4884S Z anode has a single #8 awg HMWPE cable lead connected to a shore-based rectifier (not included) by means of two, parallel insulated cables (usually, but not limited to, #6, #4, or #2 awg HMWPE) protected by heavy-wall EPDM rubber hose. Dual cables of #2 awg or smaller may be protected by a single hose, depending on the length required and the time of year the sled is ordered. The maximum length of shore lead cable that can be installed in-hose is 300 ft. (91 m).

Each anode lead exits from the side of the anode 400 mm (16 in.) from the center connection. The lead wire is protected by a sleeve of rubber hose at the hole in the anode wall. The interior of the anode is completely encapsulated with epoxy.

The on-sled junction between anode leads and shore leads utilizes high-strength ground connectors (copper), sealed with putty and tape, and protected by epoxy. The epoxy mass is encased in a fibreglass-reinforced pipe. The shore lead cables and protection hose(s) are securely encased in concrete in the sled frame before terminating in the on-sled junction.

The sled frame consists of two, 12 in. (300 mm) diameter, 78 in. (2,000 mm) long PVC pipes filled with reinforced concrete. The pipes are connected together by three, 4 in. (100 mm) fibreglass-reinforced pipes filled with reinforced concrete.

The sled frame includes 4 lifting eyes and 12 anode clamps manufactured from steel U-bolts, cover protected by a heat shrink sleeve and a 1 in. EPDM rubber hose jacket. The U-bolts are cast into concrete. Each anode contains a fibreglass rod that inserts in to a matching hole on the sled frame to further secure the anode.

A name plate secured into concrete lists Anotec, the sled serial number, and date of manufacture. Customer project "information" is optional.



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NSF/ANSI/CAN 61-G



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