



Fig. 8-9. *NiCd vented cell.*

Battery Rating System

NiCd batteries have a conventional rating system. First the nominal discharge voltage is given, 1.2 volts per cell, and then the battery capacity. The latter is the amount of power a fully charged battery provides until a fully discharged condition occurs and is measured in amps per hour (Ah). With the NiCd battery, however, it is important to know the duration, in hours, of the discharge. A nickel-cadmium battery is considered discharged when cell voltage decreases to 1.0 volts.

For instance, a 40-Ah battery at five-hour rate implies the battery would provide a total of 40 amps over a discharge period of five hours, that is 8 amps per hour. The catch is it doesn't mean the battery will provide 40 amps for one hour or 20 amps for two hours. The Saft operating and maintenance manual says the higher the current drain, the less the battery capacity. The same battery at the one-hour rate would have only a 34-Ah capacity, meaning it would supply a 34-amp current flow for one hour before the cell average dropped to 1.0 volts.

Under equal conditions, NiCd batteries long outlive lead-acid batteries. They provide faster starts, recharge more quickly, and maintain a higher state of charge longer. While the optimum temperature range is listed at 60 to 90 degrees F, with recharge cautions below -20 degrees and above +120 degrees F, NiCd batteries operate more efficiently at