General cell characteristics

Saft's sealed nickel-cadmium and nickel-metal hydride cells are safe, maintenance free and can be installed and used in any position during charge, discharge and storage.

Cell-rating capacity method

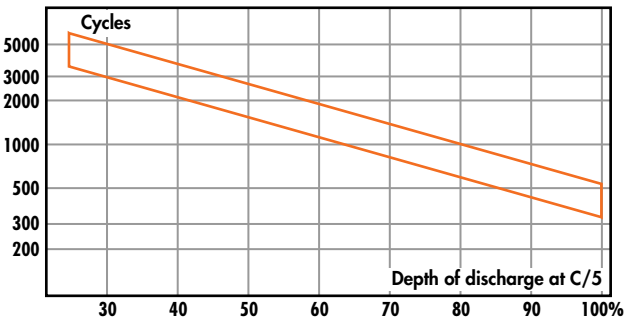
As per IEC Standard conditions, Saft's nickel-cadmium and nickel-metal hydride cells capacity are rated as follows:

- at 20°C ±5°C
- charge 16 hours at C/10
- rest from 1 to 4 hours
- discharge at C/5 rate to a 1.0V final voltage

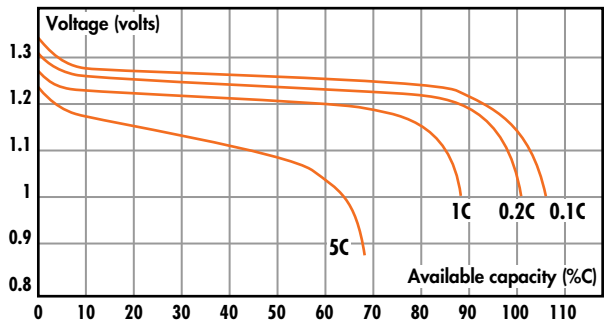
Cycle life time

The useful life of a nickel-cadmium or nickel-metal hydride battery can be expressed either in number of cycles before end of life or in units of time.

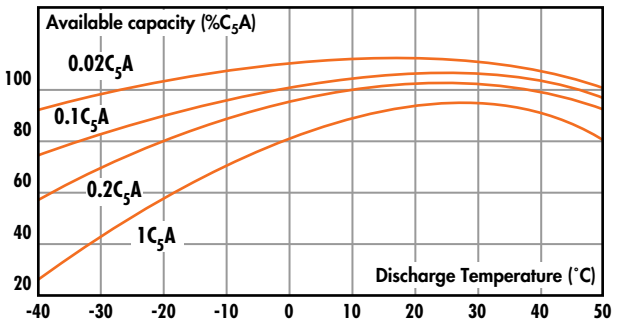
Experience and laboratory test data show that cycle life depends on depth of discharge and temperature. When performing a fast charge, cycle life is also a factor of the way end-of-charge detection is achieved.



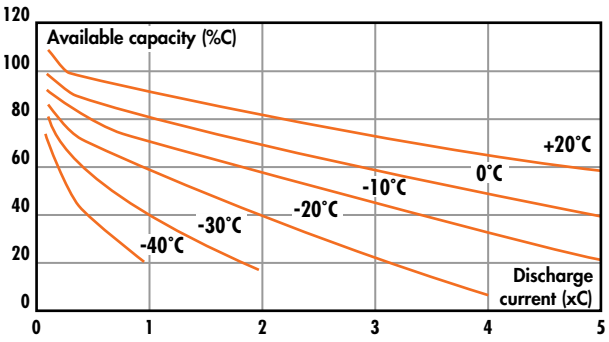
Cycle life
VR series



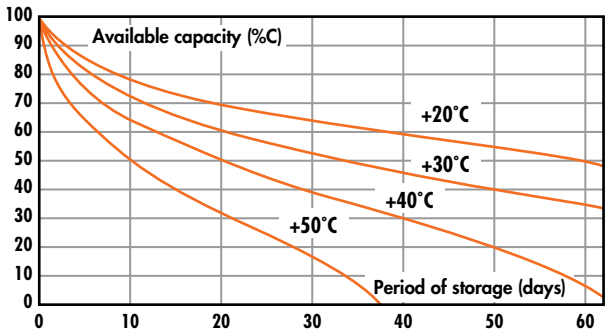
Voltage in discharge at +20°C
after charge
0.1 C
x 16 hours
at +20°C
VR Series



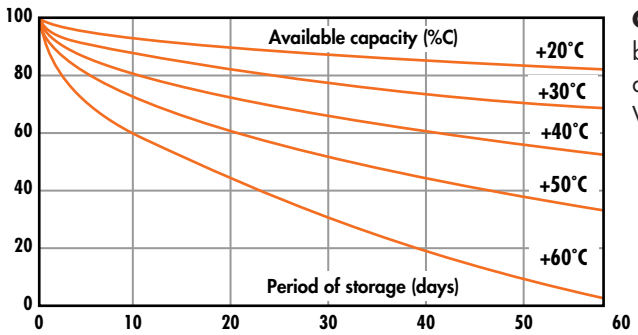
Available capacity
from -40°C
to +50°C
for various
discharge rates,
after charge at
+20°C
VR series



Available capacity
after charge
0.1 C
x 16 hours
at +20°C
VR series



Charge retention at various temperatures
VR series



Charge retention
between +20°C
and +60°C
VT series

Discharge characteristics

Discharge characteristics are capacity and voltage.

Capacity, measured in terms of ampere-hours or milliampere-hours, depends on several factors, i.e., cell size, cell design and construction, charge effectiveness, temperature, open circuit time, discharge rate, final voltage and cell history.

The average discharge voltage depends on size and construction discharge current, discharge temperature and cycling history.

For detailed information, refer to the specific data shown later in this catalogue.

Charge retention

The charge retention curves shown here are based on storage at various temperatures. The self-discharge rate is a function of temperature and cell technology. Storage at higher temperatures will reduce charge retention.