



**OPzV Series Battery**

NAPEL OPzV series battery( tubular GEL battery) are newly developed tubular positive plates with fumed gelled electrolyte, Performances meet & exceed the standards specified in DIN 40742, and with very long design life and very high deep cycling capabilities. This type battery is recommended for telecom outdoor applications, renewable energy systems and other harsh environment applications.

**Application**

- \*Telecommunication equipment;
- \*UPS power supply;
- \*Solar power system;
- \*Wind power system;
- \*Electronic instruments Fire alarm and security devices.

**General Features**

- \*Gelled electrolyte, no flow, no leakage or no gradation of sulfuric acid;
- \*The positive plate is tubular plate, which can effectively prevent the active materials from falling off;
- \*PVC separator, which is special for gel battery with tiny holes;
- \*The separator has high volume porosity, low electrical resistance and excellent wettability.

**Construction**

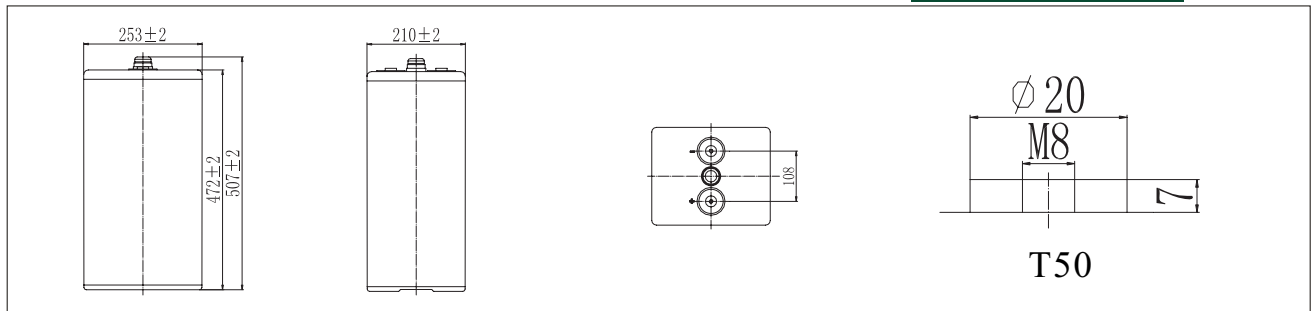
- \*Positive Plates: Robust tubular plates consisting of Pb-Ca-Sn alloy;
- \*Negative Plates: Grid plate construction consisting of lead calcium alloy;
- \*Separator: Microporous and robust PVC-SiO<sub>2</sub>;
- \*Terminals: cooper
- \*Container: ABS (UL94-HB), Flammability resistance of UL94-V1 can be available upon request ;

**Specification**

|                                    |   |                        |                         |  |  |
|------------------------------------|---|------------------------|-------------------------|--|--|
| Battery Model                      | Nominal Voltage                               |                        | 2V                      |  |  |
|                                    | Rated capacity(10 Hour rate)                  |                        | 770Ah                   |  |  |
| Dimensions                         | Length  | Width                  | Height                  | Total Height                                 |  |
|                                    | 253mm (9.96 inches)                           | 210mm(8.27 inches)     | 472mm(18.58 inches)     | 507 mm (19.96 inches)                        |  |
| Approx Weight                      | 60kg(132.3lbs)±3%                             |                        |                         |  |  |
| Capacity 25°C (77°F)               | 10 Hour rate(1.8V, 77A)                       | 5Hour rate(1.75V,138A) | 3 Hour rate(1.70V,202A) | 1 Hour rate (1.60V, 439A)                    |  |
|                                    | 770Ah   | 690Ah                  | 606Ah                   | 439Ah  |  |
| Maximum discharge current          | 3000A(5 sec.)                                 |                        |                         |  |  |
| Internal Resistance                | Full charged at 25 °C (77°F): Approx 0.4mΩ    |                        |                         |  |  |
| Capacity affected by Temp. (10 HR) | 40°C (104 °F)                                 | 25°C (77°F)            | 0°C (32°F)              | -15°C (5°F)                                  |  |
|                                    | 102%  | 100%                   | 85%                     | 65%  |  |
| Self Discharge at 25°C (77°F)      | After 3 months storage                        |                        | After 6 months storage  | After 12 months storage                      |  |
|                                    | 93%   |                        | 85%                     | 72%  |  |
| Charge method 25°C (77°F)          | Cyclic charging voltage                       |                        |                         | Float charging voltage                       |  |
|                                    | 2.37-2.40V (Temperature xompensation:-5mV/°C) |                        |                         | 2.25-2.3V (Temperature compensation:-5mV/°C) |  |

**Outer dimensions (mm)**

**Terminal Type (mm)**

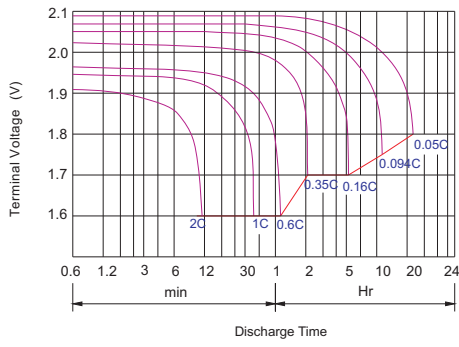


**Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C (77°F)**

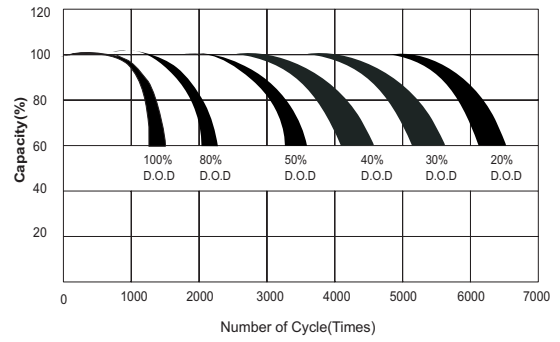
| Time  |   | 30min   | 60min | 2h    | 3h    | 4h    | 5h    | 6h    | 8h    | 10h   | 20h   | 24h   |
|-------|---|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.60V | A | 655.0   | 439.0 | 266.0 | 204.0 | 165.0 | 141.0 | 121.0 | 95.0  | 78.4  | 41.50 | 35.80 |
|       | W | 1,224.0 | 834.0 | 513.0 | 400.0 | 323.0 | 277.0 | 238.0 | 188.0 | 156.0 | 83.10 | 71.90 |
| 1.65V | A | 641.0   | 432.0 | 264.0 | 203.0 | 164.0 | 140.0 | 120.0 | 94.5  | 78.2  | 41.50 | 35.70 |
|       | W | 1,199.0 | 821.0 | 510.0 | 398.0 | 321.0 | 275.0 | 237.0 | 187.0 | 156.0 | 82.90 | 71.80 |
| 1.70V | A | 622.0   | 421.0 | 262.0 | 202.0 | 163.0 | 139.0 | 119.0 | 93.8  | 78.0  | 41.30 | 35.50 |
|       | W | 1,163.0 | 801.0 | 505.0 | 395.0 | 319.0 | 273.0 | 235.0 | 186.0 | 155.0 | 82.70 | 71.30 |
| 1.75V | A | 607.0   | 413.0 | 258.0 | 200.0 | 162.0 | 138.0 | 119.0 | 93.2  | 77.5  | 41.10 | 35.40 |
|       | W | 1,135.0 | 785.0 | 498.0 | 392.0 | 317.0 | 272.0 | 234.0 | 184.0 | 154.0 | 82.00 | 71.20 |
| 1.80V | A | 584.0   | 400.0 | 251.0 | 194.0 | 157.0 | 134.0 | 115.0 | 90.4  | 77.0  | 40.80 | 35.30 |
|       | W | 1,093.0 | 761.0 | 485.0 | 381.0 | 307.0 | 263.0 | 227.0 | 179.0 | 153.0 | 81.60 | 70.90 |



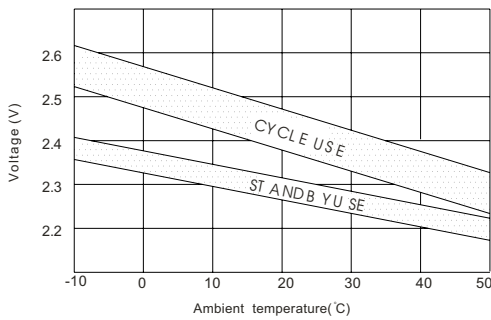
Discharge characteristic Curve



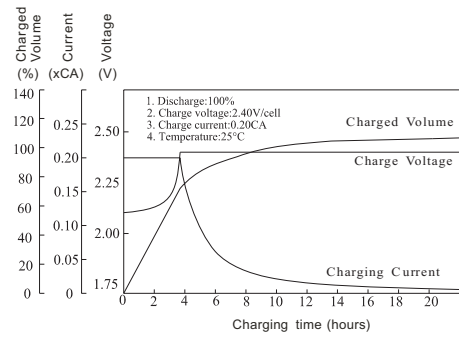
Cycle service life in relation to depth of discharge



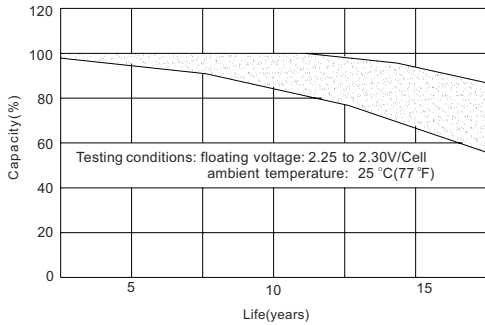
Relationship between charging voltage and temperature



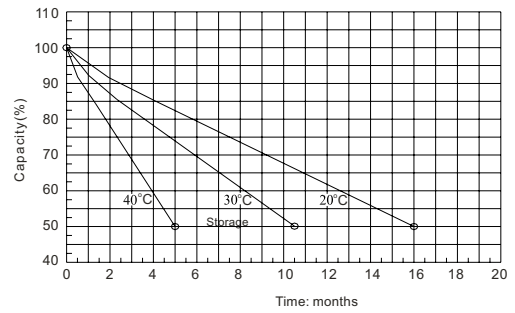
Constant voltage charging characteristic (0.25CA, at 25°C)



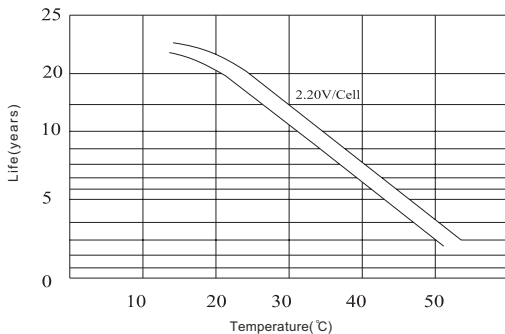
Life characteristics of standby use



Self-discharge characteristic



Temperature effects on float life



Charge characteristic Curve for standby use

