

# SOLAR BATTERY COMPARISON CHART



(NiFe)



(LiFePO<sub>4</sub>)



(PbSO<sub>4</sub>)

## CYCLE LIFE

11,000 cycles @ 50% DOD  
11,000 cycles @ 80% DOD

5,000 cycles @ 50% DOD  
2,000 cycles @ 80% DOD

1,000 cycles @ 50% DOD  
200 cycles @ 80% DOD

## APPLICATION

Off-grid solar and energy preparedness. Tolerant of extremely deep discharges and variable renewable energy charge rates.

Grid-backup, remote telecom, UPS, or off-grid. Lightweight and maintenance-free. Can be monitored online.

Infrequent use; standby applications like emergency backup. Regular deep discharging limits usable life.

## TEMPERATURE & ENVIRONMENT

Extremely wide charge and discharge range (-22 to 140 F); freezing temperatures never cause cell damage.

Wide discharge range (-4 to 150 F); charging in sub-zero temperatures can lead to permanent damage.

Reasonably forgiving (-4 to 122 F) but a discharged cell can freeze at 32 F, leading to permanent damage. Charging must be temperature compensated.

## CHARGE/DISCHARGE RATE

Likes to be worked. Prefers medium charge rates between C/2 and C/6.

Excels at high rates; can be charged and discharged up to C/1.

Prefers slow rates, loses capacity linearly with higher rates.

## MAINTENANCE

Requires regular cell watering. Electrolyte refresh recommended every 10 years.

100 percent maintenance-free. No venting, no off-gassing, no watering.

Flooded types require regular cell watering, equalization charge, and specific gravity check.

## COST

\$1 per usable watt-hour over 30-year life. Higher upfront cost, low total cost of ownership.

\$1.50 per usable watt-hour over typical 15 years of life. No maintenance-related reoccurring costs.

\$2-5 per usable watt-hour for 5 replacement sets over 30 years. Highest total cost of ownership.

Questions? We are happy to help.

IronEdison.com • 720-432-6433 • info@IronEdison.com