

The Ultimate Deep Cycle Battery Comparison Guide

Brought to you by The Battery Cell — 17+ Years of Kiwi Expertise

Choosing the wrong battery chemistry can ruin a good holiday and cost you thousands. This independent guide breaks down the five core technologies to help you get the exact power system you need for your caravan, motorhome, boat, or off-grid cabin.

Our guiding principle is simple: **"The longer you get out of our batteries, the happier we are and the happier you are."**

Quick Reference Matrix

Battery Type	Usable Capacity (DoD)	Lifespan (Cycles)	Cost Tier	Best Fit For
1. Wet Flooded	50% max	300 – 500	 Budget	Static solar banks, vintage vehicles, traditional golf carts.
2. Gel	60% – 70%	500 – 1,000	 Mid-Range	Extreme heat setups, slow-discharge off-grid cabins.
3. AGM	50% max	400 – 600	 Economical	Weekend campervans, marine house batteries, casual 4WDs.
4. Lithium (LiFePO4)	80% – 90%	3,000 – 5,000+	 Premium	Full-time freedom camping, weight-sensitive marine vessels.
5. Sodium-Ion 80%		1,500 – 3,000	 Low (Future)	Alpine/freezing conditions, experimental off-grid builds.

Deep Dive: The 5 Chemistries Explained

1. Wet Flooded (Liquid Lead-Acid)

The traditional choice. It features heavy lead plates submerged in a liquid electrolyte solution.

- **The Good:** Lowest initial purchase price. Extremely reliable if you look after it.
- **The Bad: Requires manual maintenance**—you must regularly top it up with distilled water. It produces gas when charging, meaning it **cannot** be stored inside your living space. It will leak if tipped over.

2. Gel Cell

Similar to a flooded battery, but silica is mixed into the acid to turn it into a thick, unspillable gel.

- **The Good:** Maintenance-free and entirely spill-proof. It tolerates deep discharges and extreme ambient heat much better than standard lead-acid.

- **The Bad: Extremely sensitive to overcharging.** If an incorrect charger forces a Gel battery to gas, bubbles get permanently trapped in the gel, creating dead spots on the plates and destroying the battery.

3. AGM (Absorbent Glass Mat)

The current standard for standard recreational vehicles. Liquid acid is trapped inside fine fiberglass mats packed tightly between the lead plates.

- **The Good:** Spill-proof, maintenance-free, and handles rough gravel corrugated roads beautifully. It charges faster than a standard flooded battery.
- **The Bad: Heavy and limited.** You can only drain it down to 50% capacity. If you buy a 100Ah AGM, you only have 50Ah of real, usable power before it needs to be plugged back in.

4. Lithium (LiFePO4)

The premium standard for serious off-grid travellers.

- **The Good:** Weighs less than half of an AGM while giving you double the usable power (80%–90% Depth of Discharge). It holds a flat voltage curve, keeping your 12V fridge running efficiently until the battery is empty.
- **The Bad:** High entry cost. Requires a dedicated smart charger profile and an on-board Battery Management System (BMS) to regulate health and safety.

5. Sodium-Ion (The New Frontier)

The latest emerging technology that substitutes cheap, abundant sodium for scarce lithium.

- **The Good:** Incredible cold-weather performance (works down to -20°C with almost zero capacity loss). It is highly resistant to catching fire and uses no expensive cobalt.
- **The Bad: Still in its infancy for drop-in 12V formats.** It has a sloped voltage discharge curve, meaning traditional 12V off-grid inverters can cut out early unless the system is specifically configured for sodium.

The Specialist Checklist Before You Buy

Before tap-and-going at a generic big-box automotive store, ask yourself these three expert questions:

1. **Where will it live?** If it is inside your caravan or under your seat, cross Wet Flooded off your list immediately for safety reasons.
2. **What does your vehicle weigh?** If you are pushing close to your GVM (Gross Vehicle Mass) limit, choosing Lithium over multiple heavy AGM batteries can save you 40kg to 80kg.
3. **What charger do you have?** Deep cycle batteries require smart, multi-stage charging. Make sure your existing solar regulator or DCDC charger has a profile that matches your chosen chemistry.

Need Help Choosing? Talk to a True Specialist.

Don't risk buying "phantom stock" online from non-specialists who don't know auto-electrical systems. Drop into our showroom for an honest chat and expert advice.

-  **Physical Store:** 34 Seaview Road, Seaview, Lower Hutt 5010
-  **Web:** www.thebatteryonline.co.nz
-  **Experience:** Over 17 Years Serving New Zealand Online and In-Store