

Getting out

Ultimate guide to the outdoors on the Coast



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Battle of the Deep Cycle Batteries

Calcium, AGM, Lead Crystal or Lithium, which type of deep cycle battery is the best? It's one of the most common questions when installing auxiliary batteries and 12 Volt power systems in vehicles and caravans.

Unfortunately, there is no straight answer. With so many battery options available on the market, it can be difficult to know which type would be best suited to your needs. In most cases, it will depend on what it is being installed into, where you want to put it, and how you want to use it.

In saying that however, there are four types of auxiliary batteries we recommend if you are looking for a 12-volt power solution.

Types of Batteries

To help you decide which one is going to be best suited to your setup, we're going to break down each option. First up, we'll explain the difference between each type of battery's design.

Calcium

Calcium replaces antimony in the plates of the battery, giving it some advantages including improved resistance to corrosion, no excessive gassing, less water usage and lower self-discharge. This makes calcium the ideal option for under bonnet dual battery systems. If used in a deep cycle situation it is recommended to use a charger that has a calcium charging mode to get the maximum life out of the battery.

AGM (Absorbed Glass Mat)

AGM is traditionally the most common option for auxiliary battery systems. In the internal construction of the battery, there's a fibreglass mat between each of the internal plates. The purpose of this mat is to absorb the acid in the battery, so there is no chance of

leaks if any damage occurs to the battery.

Lead Crystal

Lead Crystal Batteries first came on the scene in 2009 so they are a relatively new deep cycle battery option. The technology found in lead crystal batteries uses an advanced patented formula, a type of composite SiO₂ electrolyte developed to completely replace traditional acid battery solutions.

Lithium (LiFePO₄)

The ultimate lightweight power solution. Lithium-iron-phosphate (LiFePO₄) is the safest of the mainstream li-ion battery types. Lithium Batteries can have up to 60% more usable power than their lead-acid equivalent. Add in the fact that they are approximately 50% lighter and 30% smaller makes Lithium a superior alternative for caravan, camper trailers, boats or any other application where weight or space saving is a priority.

So, what's the best option?

As always, it depends on how often you want to use it, what you want to run and your budget. We've put together a couple of example scenarios to give you an idea of what option suits best in certain situations.

The Weekend Escaper – *You get away a couple of times a year, usually on long weekends and not too far from home.*

Recommended Battery: AGM or Calcium

For those who don't get away too often, cost efficiency is usually top of mind when it comes to choosing a battery. AGM is usually the most affordable and reliable option for the occasional adventurer. Calcium is also suitable for under bonnet vehicle dual battery systems. Provided your AGM batteries are

maintained correctly when not in use, they should see you through a few years of weekend escapes.

The 'Whenever-I-Can' Adventurer – *You spend every available moment adventuring off the beaten track, often travelling for a week or so at a time.*

Recommended Battery: Lead Crystal

If you enjoy the work-to-live kinda lifestyle, and you are willing to spend a little more on your set up, Lead Crystal is the way to go. The fast charging capabilities and resilience to deep discharging make Lead Crystal an ideal option for those extended trips off the beaten track. These batteries can be even be discharged all the way down to zero without causing damage to the battery (though it is not recommended to do this too often).

The Full-Time Tourer – *You love the caravan life on the road travelling around the country in your little slice of luxury on wheels.*

Recommended Battery: Lithium

When touring full time in the van, every kilogram counts! This is where Lithium Batteries truly are a cut above the rest when it comes to saving on weight and space. Thanks to the weight/space savings, you can fit a much larger system, allowing you to run more high draw appliances in your van. With a powerful enough system, you could potentially run a washing machine, coffee machine and even Air Conditioning!

As you can see, all the options out there for deep cycle batteries have their advantages and disadvantages depending on your situation, lifestyle and budget.

- Andrew Janes

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