
Why Should I Consider Using Lead Carbon Batteries? – Hitek Solar NZ

Lead-Carbon batteries are different from other types of batteries because they combine the high energy density of a battery and the high specific power of a super-capacitor in a single lower-cost device (also known as Pb-C).

Our Hitek Lead-Carbon batteries feature industry leading and proven technology, achieving maximum cycle life in a compact package.

The primary goals of lead-carbon battery research has been to extend the cycle life of existing AGM lead-acid batteries and also increase their storage capacity / power. The Activated Nano-Carbon Enhanced negative electrode provides proven results and unmatched cycle life, even in a partial state of charge (PsoC) operation. This is very beneficial in solar power systems, communication sites, Caravan, Marine, Motorhome / RV installations and many more applications.

We have pre-made battery racks available for our lead-carbon batteries to make installation quick and easy. Our lead-carbon batteries are fully sealed Valve-Regulated and can operate on their front, side or standing upright to give you maximum installation options in any installation scenario.

Advantages of Lead Carbon compared with Lithium batteries and Lead-Acid:

- * No BMS (Battery Management System) is needed to prevent over-charging and under-charging on a per cell basis, as lithium battery sets need.
- * No thermal run-away risk of individual cells over heating, exploding and catching on fire as lithium batteries have.
- * Much better and greater kW storage capacity per dollar compared with lithium (approximately twice the storage capacity from lead-carbon compared with lithium, or about half the price for the same kW capacity).
- * A nice easy to carry modular system where each battery can be carried and put in place 1 at a time, without needing any forklifts, jacks etc like you need to install the Tesla Powerwall battery.
- * Suitable for On-Grid Hybrid and Off-Grid systems due to high discharge amperage capacity. A set of our 14.4kW lead-carbon batteries is capable of 5kW discharge capacity without any problems or issues, yet lithium batteries such as the Panasonic Home Storage Battery + the Tesla Power Wall battery are limited to 2 - 3.3kW constant power output which in turn makes them un-suitable for off-grid installations.
- * No Cooling fans / system is needed for lead-carbon batteries, yet lithium batteries such as the Panasonic Home Storage Battery + the Tesla Power Wall battery need active fan cooling to constantly regulate and keep the lithium battery temperature cool otherwise over-heating and risk of fire / explosion may result if they had a cooling system failure.
- * Can easily retrofit / retro-fit onto ANY / ALL existing systems running existing lead-acid batteries, where as lithium batteries can't easily be added onto existing older systems that are running older lead-acid batteries. In turn our lead carbon batteries can work on older systems that may be running Outback Power, Midnite Solar, SMA Sunny Boy / Sunny Island setups, Enasolar, Enphase, APS, Solax, Goodwe, EP Solar Tracer, Xantrex, Schneider, and many other existing older system types.
- * Much higher energy density and longer life in the same size (or smaller) package compared with existing AGM /

GEL and Flooded Lead Acid Batteries. Eg a typical 6v Crown / Trojan 430Ah L16 style Flooded Lead Acid Battery only gives 1200 cycles at 50% DOD while our lead-carbon batteries offer 3500+ cycles at 50% DOD while also giving MORE usable Ah / kW storage capacity at the same time.

* No need to run lots of separate 2v batteries as was the norm with older lead-acid solar storage setups, as our 6v 300Ah battery sets offer much better value for money per kW than existing traditional 2v setups offer, however yes we can also offer our lead-carbon batteries as 2v battery versions also (via pre-order only). This not only saves you money but also means our battery storage system offers a much faster and easier installation in comparison.

* High Amperage Charge & Discharge capacity compared with Solar GEL batteries which have low charge / discharge amp input and output current restrictions.

* No harmful and toxic gases coming off our lead-carbon batteries (as they're sealed), so you don't have to worry about terminals and wiring corrosion, or spillage of liquid acid, checking fluid levels, hydrometer checking and all the safety risks / hazards that you have with existing flooded lead acid batteries. Our lead-carbon batteries don't need external outdoor ventilation as normal lead-acid batteries do.

* Up to 20 Year Design Life for our lead-carbon batteries (when running in best case with perfect environment conditions), compared with standard lead-acid batteries that have a 3-5 year design life and lithium that has up to 10 year design life.

We have now supplied and deployed more than 250 sets of our lead-carbon batteries to clients around NZ and around the world, and we've not had a single client who has not been happy with how nicely our lead acid batteries are running for them on their systems. Many of these clients previously had existing lead-acid batteries that had failed on them much sooner than they had expected and they wanted a more reliable long-term solution. Our lead carbon batteries are the answer and today here in New Zealand we've not found another single solar / energy storage battery that is "Better Value for Money" than our lead-carbon batteries when usable battery life and usable energy storage are part of the calculation.



