Lead Carbon Batteries

We have switched over to engineered carbon matrix in the field of lead acid battery chemistry from the standard method of process control of its manufacturing, amounting to a substantial increase in performance which in turn increases the life cycle to almost double the normal battery life cycle. This will be equal to half the cost of a normal lead acid battery in terms of the life cycle achieved.

A newer and superior Lead Carbon Battery chemistry with a new concept of environmentally friendlier Activated Carbon incorporated is the new form of energy storage lead battery and an innovation brought about by Nordische.

Two types of lead chemistry in the form of a) Lead Carbon Ultra Battery (LCUB) and b) Lead Carbon Foam Battery (LCFB) have been established by Nordische.

LEAD CARBON ULTRA BATTERY - LCUB

The lead-acid batteries are still one of the most reliable, economical, and environmentally friendly options. However, electrodes in the lead-acid batteries suffer from the problem of heavyweight, corrosion, poor thermal stability, and diffusion of electrolytes in one dimension, which ultimately affects the output power. This necessitates the development of an alternative battery system with lower environmental concerns, economic and higher energy density.

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Thus, Nordische has developed through years of R&D to manufacture high quality carbon based batteries which includes recent advances in the use of nano scale carbon in the construction of Ultra carbon-lead acid batteries, which are reducing acid volume requirements and maintenance frequency, while extending cycle life.

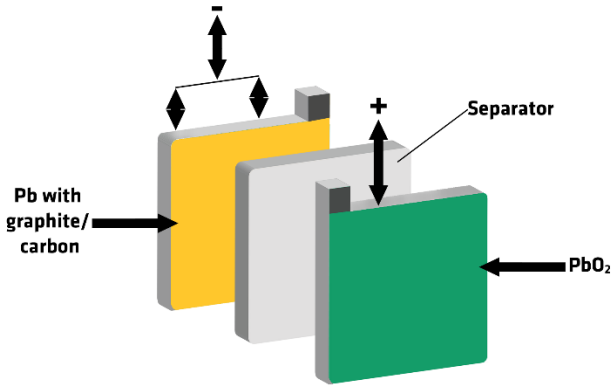
Engineered carbon nano-materials, perhaps the current leading materials advance for lead-acid batteries, yield substantial recharge performance gains.

Compared to mainstream rechargeable industrial batteries like lead acid, lead gel and AGM batteries, our Lead Carbon batteries perform as follows:

- It can be charged faster and discharged deeper (even to 100% DOD)
- It can be charged below 7 degrees Celsius and have ultra-low gassing (only if over-charged)
- It can be cycled more often (2400 @ 80% DOD) and can be used in a partial state of charge
- It can be stored for 1.5 years without top-up charging and requires no special ventilation or cooling
- It does NOT have any risk of fire or explosion (unlike lithium batteries)
- It does not release any harmful, dangerous poisonous gasses or acids during normal charging / discharging usage.
- It does not require an active BMS system to protect & balance them
- Lead Carbon batteries are among the most ABUSE TOLERANT / RESISTANT batteries available today.
- It can easily be retrofitted (retro-fitted) to 95% of applications that

use existing lead acid.

- Lead Carbon batteries have an operating temperature from +2 to +40 degrees Celsius



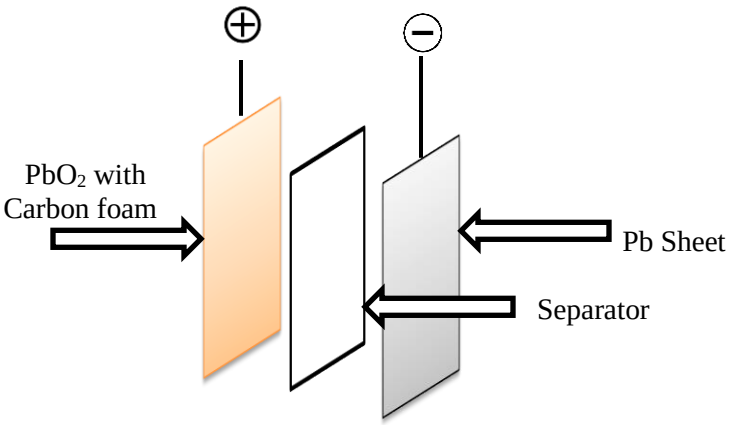
LEAD CARBON FOAM BATTERY

Through years of research and development that incorporates carbon foam as an electrode material in the lead battery chemistry. The addition of carbon foam to the lead-acid battery chemistry aims to improve the battery's performance and longevity, making it more suitable for various applications.

Carbon foam is highly conductive and is not corroded by acids or alkalis. Grid is made of carbon foam and active material is then pasted on this. The surface area of carbon foam is very high for electrochemical reactions. Due to the inherent and amazing features of carbon and the 3D honeycomb structure of carbon foam, it has thousands of micropores.

Compared to mainstream rechargeable industrial Lead acid batteries, Lead Carbon foam batteries perform as follows:

- They are lighter in weight and give very high surface area for electrochemical reaction (Approx. 2000 times more than conventional lead batteries)
- They have high AH and energy efficiency and are resistant to heat and corrosion
- They have improved performance withstanding extreme temperatures
- They have faster recharging capability and high discharge capacity
- They have Zero capacity loss in a partial state of charge (PSOC)
- Lead Carbon Foam batteries have longer life cycle (Four times the life cycle compared to conventional batteries)



The application of our Lead Batteries are in wide sectors like -

- Renewable Energy Storage
- Telecommunications infrastructure
- UPS
- Marine/RV
- Transportation