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Battery Types

The two battery types that have been used in your Foretravel house system over the last decade or so are Valve Regulated Lead-Acid (VRLA). Commonly known as either a Gel (Gelled Electrolyte) or an AGM (Absorbed Glass Matt).

How does a VRLA battery work?

A VRLA is a “recombinant” battery. This means that the oxygen normally produced on the positive plates of all lead-acid batteries is absorbed by the negative plates. This suppresses the production of hydrogen at the negative plate. Water (H₂O) is produced instead, retaining the moisture within the battery. It never needs water and should never be opened as this would “poison” the battery with additional oxygen from the air.

How are a gel battery and an AGM battery similar?

Both are lead-acid storage batteries that:

- Are sealed using special pressure valves and should never be opened.
- Are completely maintenance free other than the connections should be retorqued and the battery exterior cleaned periodically.
- Uses a recombination reaction to prevent the escape of hydrogen and oxygen gases normally lost in flooded lead acid battery (particularly in deep cycle applications).
- Are non spillable, and therefore can be operated in virtually any position. However upside down is not recommended.

How are a gel battery and an AGM battery different?

- An AGM is an electric storage battery that has its entire electrolyte absorbed in separators consisting of a sponge-like mass of matted glass fibers.
- A gel battery uses thixotropic gelled electrolyte. (sometimes fluid and sometimes gel: becoming fluid when shaken or stirred and returning to a gel state when allowed to stand)
- Both are considered as “acid starved”. This condition of both protects the plates during heavy deep-discharges. The gel battery is more starved, giving more protection to the plate; therefore it is better suited for super-deep discharge applications.
- Due to the physical properties of the gelled electrolyte, gel battery power declines faster than an AGM battery as the temperature drops below 32°F. AGM batteries excel for high current, high power applications and in extremely cold environments.

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