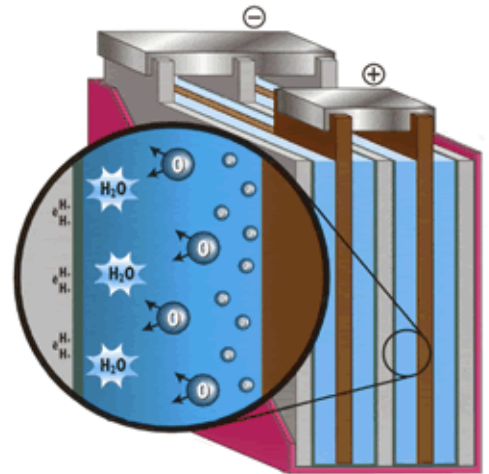


AGM Battery Construction

AGM Batteries are the best batteries available for marine applications



The recombination of the gases on charge with the absorbed glass mat (AGM) design.

Who Says?

US Coast Guard says so. (USCG Approval)
Underwriters Laboratories says so. (UL Approval)
US Navy says so. (USN Mil-Spec)

WHY?

Operation comes down to how they are built. No maintenance, no mess, no acid spills, and less internal resistance. They are more expensive, but they work better and are safer!

WHAT?

AGM Batteries are chemically the same as flooded lead acid batteries, but they are built very differently. Both use a lead, and sulfuric acid combination to move electrons to and from the positive and negative plates to store, charge, or discharge electricity. However, here is where the similarities end.

AGM Batteries are comprised of lead plates, Advanced Glass Mat, and acid, inside the battery case. Each plate is wrapped in a separator to avoid short circuits, then a piece of glass matting is put on each side of the plate, then another plate is added, and the AGM matting is installed again. The plates, mats, and separators are installed into the battery by hand, soldered together, then flooded with acid.

After initial charging, the batteries are relieved of acid that is not held in by capillary action in the glass mats. After dumping out the excess acid, and sealing the battery with a positive pressure, final checks are made. The result is a battery that is unspillable, sealed, and ready to go. These batteries, under normal operation, will not corrode the contacts, spill acid, and gas at 20% the rate of flooded batteries.

HOW?

The genius in the AGM battery is the glass matting. This glass will not soak up, nor deteriorate, in the acid it is immersed in. Instead the glass matting holds a large amount of acid via capillary action. This capillary action also allows the acid to move from the AGM mat to the battery plate as needed. Because there is less liquid, and it is in suspension, the acid can not sustain stratification (separation of substances like a drink on the bar), nor can the plates ever dry out (which leads to serious erosion of the plates). The readiness of the chemicals in solution reduces the resistance of the system to the lowest available rates.

The lack of internal resistance is key to the operation of these batteries. AGM Batteries are some of the most efficient batteries available, giving back up to 95% of the power required to charge them.

AGM Batteries are safer than GEL or Flooded Batteries - No Acid Leaks, no explosions
AGM Batteries are more efficient than either Flooded or GEL batteries
AGM Batteries are able to be charged/discharged faster than Flooded Batteries (due to low internal resistance)