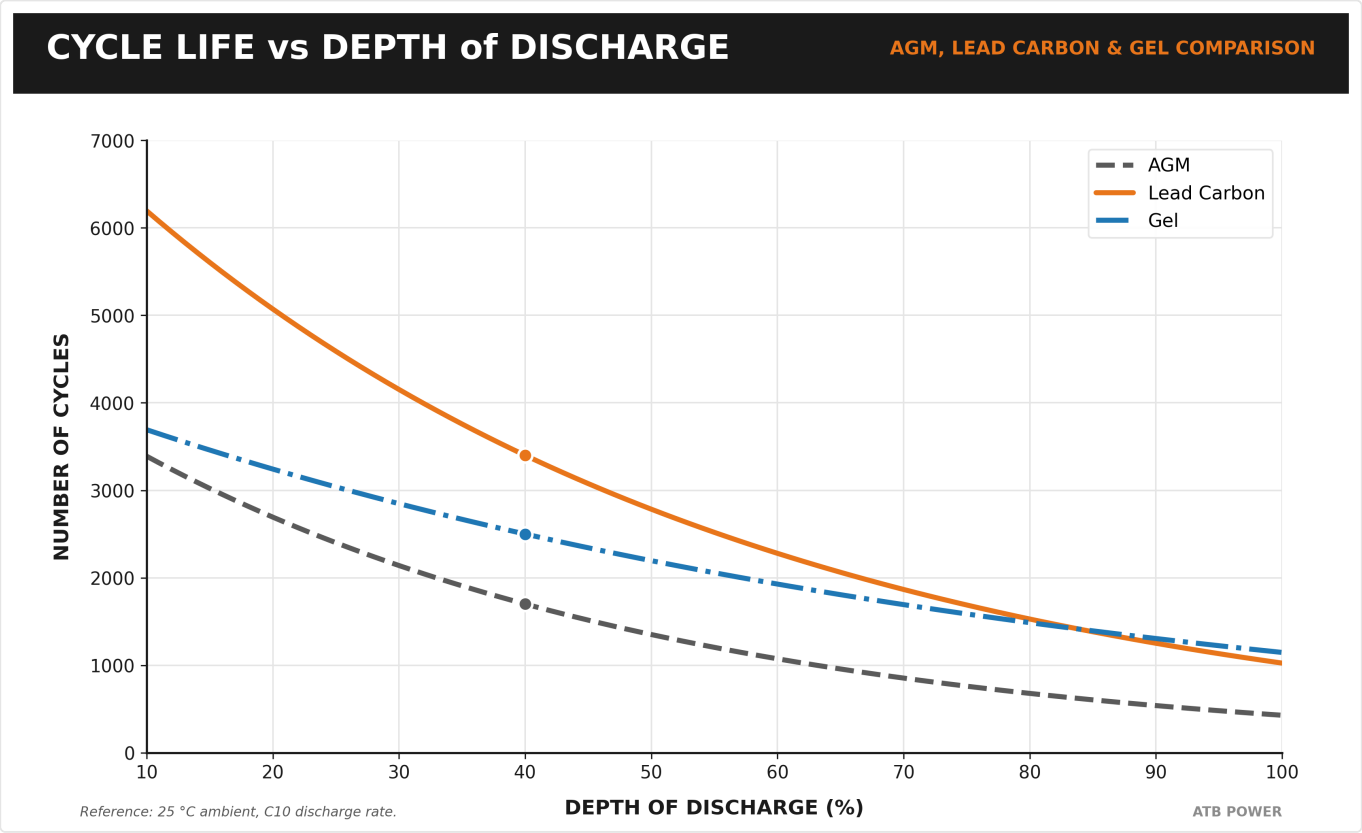
LEAD-ACID GUIDE

AGM vs GEL: Choosing the Right VRLA Battery

Both are sealed, maintenance-free lead-acid. The difference is how the electrolyte is held, and that decides which duty each one suits.

ATB Power · Battery Solutions · 5 min read

AGM and GEL are both valve-regulated lead-acid (VRLA): sealed, non-spillable and maintenance-free. The practical difference is the electrolyte. AGM holds it in a glass-mat separator; GEL sets it into a silica gel. That changes their strengths and their charging.



ATB cycle life by series. Cycle life falls as depth of discharge rises, and lithium delivers many times the cycles of lead-acid at the same depth.

Side by side

FACTOR	AGM	GEL
Electrolyte	Absorbed in glass mat	Gelled with silica
Best at	High-rate, standby, general cycling	Deep cycling, high temperature
Charge voltage (12 V, 25 C)	14.4 to 14.7 V	14.1 to 14.4 V
High-current delivery	Stronger	Good
Deep-cycle endurance	Good	Excellent

Choose AGM when

- You need high bursts of current (UPS, engine start, alarms).
- The duty is standby or general-purpose backup.
- You want the lowest cost per amp for mixed use.

Choose GEL when

- The battery is cycled deeply and often (solar, mobility, marine).
- It runs in high ambient temperatures.
- You want the longest cyclic life from a lead-acid battery.

CHARGING MATTERS

GEL uses a slightly lower charge voltage than AGM. Always set the charger to the matching profile; an AGM profile on a GEL battery (or the reverse) shortens life. See the VRLA operating manual.

Need help choosing or specifying?

Talk to ATB for datasheets, fitment and custom configurations.

Request specifications