

# Hi-Sep™

Batteries and battery separators have come a long way since the early days of nickel-cadmium batteries and wooden separators. Battery separators serve as permeable, physical barriers between the positively and negatively charged components in batteries, preventing electrical short circuits while allowing electrically charged particles to pass through them and be stored for future use.

At Hollingsworth & Vose, we produce and distribute battery separators for multiple types of batteries in varied applications, including industrial trucks. We manufacture our Hi-Sep™ battery separators from synthetic materials, binders, and glass fibers for gel lead (VRLA) batteries that exceed the capabilities and performance of those made with other typical materials, including phenolic resin, polyethylene (PE), and polyvinyl chloride (PVC).

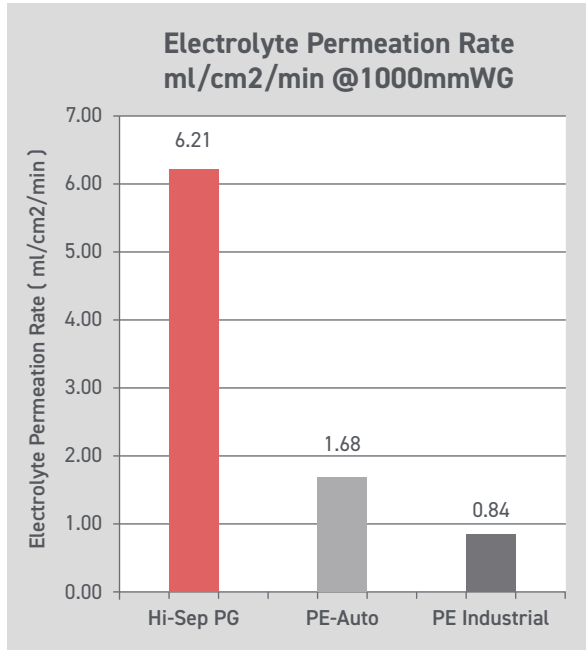
## Hi-Sep™ Battery Separators at Hollingsworth & Vose

Our Hi-Sep™ composite battery separators' fibrous web design offers an extended cycle life for gel and flooded industrial batteries. Hi-Sep™ battery separators help to provide long-lasting, steady performance for safer, low-maintenance VRLA batteries which are often installed in remote, challenging, or critical locations.

Specific qualities which make our Hi-Sep™ battery separators stand out from the crowd include:

- High electrolyte permeability for excellent performance and recharging capability
- High resistance to chemicals, corrosion, and electrochemical oxidation (up to 50%), resulting in longer battery life cycles
- Tolerance of high-temperature conditions resulting in extended life and improved performance
- Optimized pore structure and porosity (70%) balancing short circuit prevention, ionic movement, and electrolyte reservoir functions for ideal cycle life
- Ability to accept high-current charging
- Necessary physical strength and durability to perform well in a variety of challenging installations, including high vibration, impacts, puncture risk, and harsh conditions
- Designed for partial state of charge (PSOC) applications and offering low electrical resistance (0.07  $\Omega$ -cm<sup>2</sup>) providing broad capabilities in both regular and unpredictable usage patterns
- Faster charge acceptance
- A nearly leachate-free formulation that is 100% free of oil leachates
- Availability in multiple structures (leaf, envelope, and roll forms) and thicknesses, providing a versatile solution for countless industrial, automotive, and other applications with varying design and functional requirements





## Working With Hollingsworth & Vose

At Hollingsworth & Vose, our industry-leading battery separators offer excellent, long-lasting performance for VRLA gel lead batteries, especially in challenging environments and daily or irregular use cycles. To learn more about our Hi-Sep™ battery separators and the full range of production and custom battery separator manufacturing capabilities visit our [website](#).

## About Hollingsworth & Vose

Hollingsworth & Vose is the global automotive AGM market leader with local support and regional manufacturing. We are the only vertically integrated, international, AGM producer in the lead battery industry. For over three decades, we have been a trusted partner and solution provider that is dedicated to innovation and collaboration with our customers. We have a broad product line with specialized application support and electrochemical level testing in our state-of-the-art battery testing lab.

Separator	Volume porosity	Electrical Resistance
Hi-Sep™ PG	75%	0.07 Ω-cm2
PE-Auto	60%	0.07 Ω-cm2
PE -Industrial (1.6mm)	40%	0.291Ω-cm2
Hi-Sep™ Extra (1.6mm)	57%	0.162Ω-cm2

## Contact H&V to Learn More

At Hollingsworth & Vose, we specialize in creating high-quality battery separator products that meet each of our clients' stringent performance and material standards. We serve the automotive and industrial sector with durable separators that enhance battery lifespan and performance for rugged applications. Our teams can tailor separators to meet your application needs.

**Contact us** today to learn more about our capabilities and products.