

# GORE™ PRIMEA® SERIES 57 MEAs

## MEMBRANE ELECTRODE ASSEMBLIES

GREATER PERFORMANCE. GREATER UNDERSTANDING.



### Proven Durability Under Harsh Conditions

Gore continues to apply its 25 years of expertise in electrochemistry, material science and high-volume manufacturing to its ever-growing portfolio of application-specific MEAs for PEM fuel cells.

GORE™ PRIMEA® Series 57 MEAs deliver high power density and exceptional durability under the hot, dry conditions typically found in next-generation automotive fuel cell applications.

Stack testing\* confirms that Series 57 lasts approximately four times longer than GORE™ PRIMEA® Series 55 MEA, the recognized industry standard since 1997.

Every component of GORE™ PRIMEA® Series 57 MEA has been optimized to withstand the challenges of chemical degradation and voltage decay in harsh environments. Advancements in Gore's micro-reinforced membranes, plus new gas diffusion technologies and overall MEA design improvements combine to bring you the durability needed to meet the needs of next-generation FC systems.

\*See data on back.

### Reducing Balance of Plant Requirements

These robust MEAs allow automotive FC system developers to pack more power under the hood while simplifying balance of plant requirements, including reduced humidification and cooling system needs. The resulting downsize in space requirements, combined with proven durability, will go a long way toward realizing cost-efficiencies in system design.

### Continuing the Advance Toward Commercialization

Automotive FC system manufacturers can now approach fleet development from a more manageable cost perspective, meeting a critical need for large-scale road tests and public demonstrations.

At the same time, Gore research continues to advance the technology – already showing significant progress with new high conductivity membranes designed for operation in sub-saturated or dry environments at temperatures up to 120°C, with greater durability and lower precious metal loadings. And, our qualified manufacturing facilities are ready to help you meet cost and volume targets all along the road to commercialization.

## MEAs FOR AUTOMOTIVE PEM FUEL CELLS

### Key Features

- Operates under lower RH and/or higher temperatures
- Extended MEA lifetime
- Low voltage decay
- High power density
- Broad operating window
- Fully qualified product
- High volume manufacturing
- 3-, 5-, 7-layer assemblies available

### Key Benefits

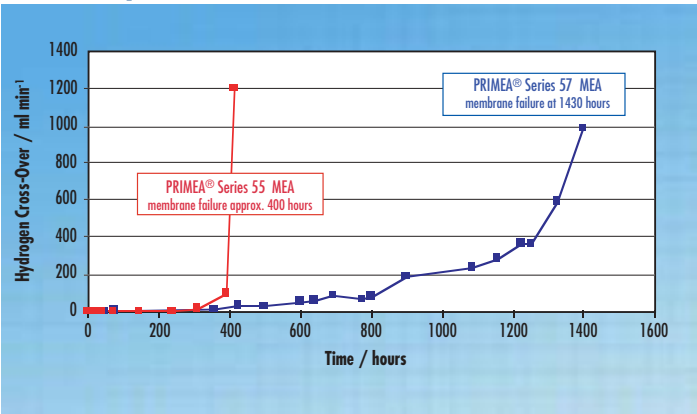
- Enables next-generation system design
- Reduces humidification needs
- Minimizes radiator sizing
- Reproducible, dependable performance
- Lowers total system cost
- Ideal for test fleet applications



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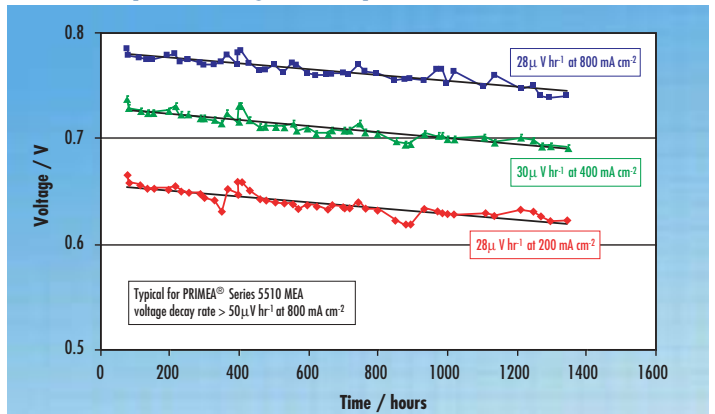
GREATER PERFORMANCE. GREATER UNDERSTANDING.

## Durability - Membrane Life



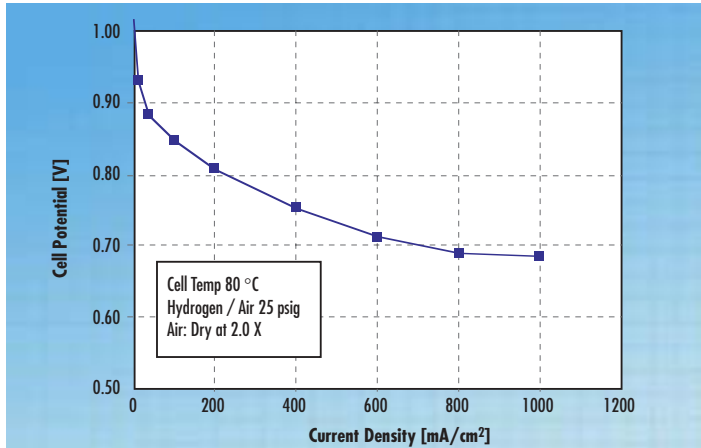
(Fig. 1) Short stack test data\* using PRIMEA® Series 57 MEA with GORE™ gas diffusion media. Dry air accelerated durability test conditions.

## Durability - Voltage Decay



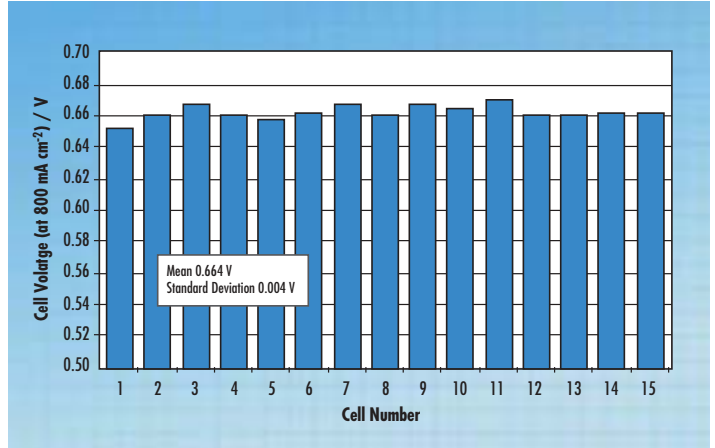
(Fig. 2) Short stack test data\* using PRIMEA® Series 57 MEA with GORE™ gas diffusion media. Dry air accelerated durability test conditions.

## Power Density - Single Cell Performance



(Fig. 3) Gore data testing PRIMEA® Series 57 MEA with GORE™ gas diffusion media.

## Power Density - Short Stack Performance



(Fig. 4) Data\* testing PRIMEA® Series 57 MEA with GORE™ gas diffusion media.

\*Data presented here with permission of General Motors Corporation.



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The optimal performance of any Gore product is dependent upon how it is incorporated into the final device. Please contact one of our technical sales associates for application assistance.

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