

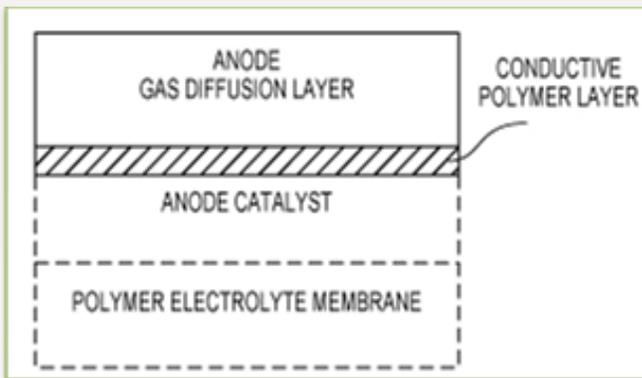
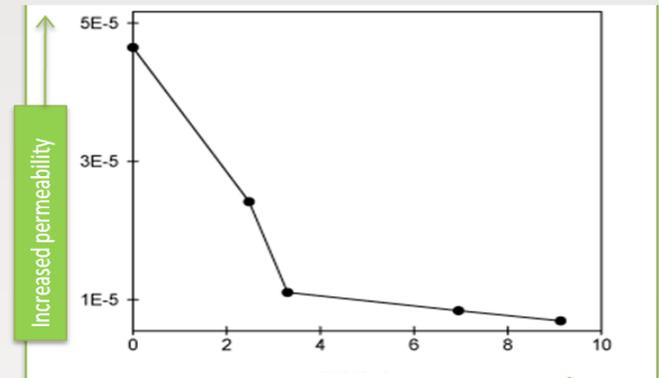
TECHNOLOGY READINESS LEVEL: 4

US PATENT PENDING

KEY ELEMENTS OF THE TECHNOLOGY HAVE BEEN DEMONSTRATED IN RELEVANT LABORATORY ENVIRONMENTS.

TECHNOLOGY SUMMARY

Direct methanol fuel cells have an advantage over hydrogen fuel cells because the liquid methanol has high energy density and is easily transportable. However, one of the challenges with this process has been the large amount of methanol that crosses over from the anode to the cathode side of the membrane electrode assembly. This crossover poisons the cathode, decreasing operating voltage and weakening the power output of the cell.



Sandia researchers have developed a method for mitigating the methanol crossover poisoning effect in fuel cells. This unique gas diffusion electrode technique results in little to no leftover methanol, therefore increasing the overall effectiveness and performance of the fuel cells.

POTENTIAL APPLICATIONS

- Electronics/Microelectronics
- Portable Power Supply
- Storage Battery
- Transportation/Automotive

TECHNOLOGICAL BENEFITS

- Advanced Materials
- Power & Efficiency Gains
- Smaller Scale
- Reduced Cost

TECHNOLOGY INQUIRY?

For more information or licensing opportunities contact us at

ip@sandia.gov

Refer to SD # 11172

or visit

<https://ip.sandia.gov>