

# NextCell-HP

## Advanced Electrolyte Planar Cell



**fuelcellmaterials.com**  
PERFORMANCE AND QUALITY DELIVERED

**Enhanced Performance**  
**Repeatable Results**  
**Large Quantities Available**

Both researchers and manufacturers can agree that repeatable results are key to success in the fuel cell industry. Get the performance and repeatability you need with **fuelcellmaterials'** enhanced NextCell-HP™ electrolyte supported cell.

The performance of the NextCell-HP™ can be attributed to the use of our patented Hionic™ electrolyte support, which is more than four times stronger than conventional fully stabilized electrolytes and yet has excellent conductivity.

If you use lower operating temperatures, we have good news! The NextCell-HP™ offers higher performance suitable for use at lower operating temperatures.

Taking advantage of many years' experience developing protective coatings through controlled layer deposition, we have implemented improved manufacturing processes to provide a higher performing cell at a lower price point than the traditional NextCell™.

Instead of screen printing, electrodes are constructed on the same Hionic™ electrolyte through Aerosol Spray Deposition (ASD), a process that enables fine control deposition of electrode layers and is readily amenable to low cost and high volume manufacturing. This improved control has enabled us to provide thinner and more uniform electrodes.

- **Enhanced power density with state-of-the-art electrode compositions**
- **Reduced part-to-part variations within lots with our new spray coating manufacturing process**
- **Evaluate various conditions at a wider range of testing temperatures with a LSCF cathode electrode**
- **Greater flexibility in designing custom cells**
- **Lower prices from new processing methods and increased yields**
- **High lot-to-lot reproducibility for trusted test results**

**Providing proven and repeatable results to help simplify the complexities of research and development.**

Multi-layered anode with nominal thickness of 30  $\mu\text{m}$

NiO/YSZ anode for superior performance

SDC anode barrier layer

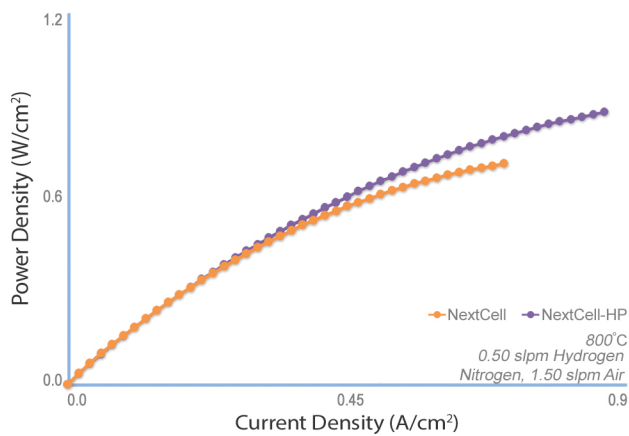
Multi-layered cathode with nominal thickness of 30  $\mu\text{m}$

LSCF-GDC cathode for higher performance

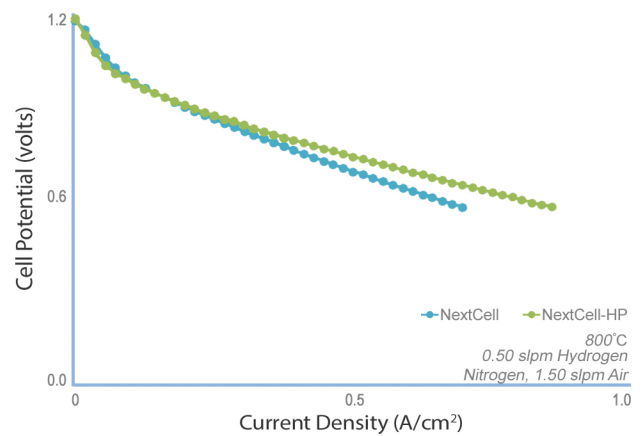
SDC cathode barrier layer

Scandia based Hionic™ substrate with nominal thickness of 150  $\mu\text{m}$

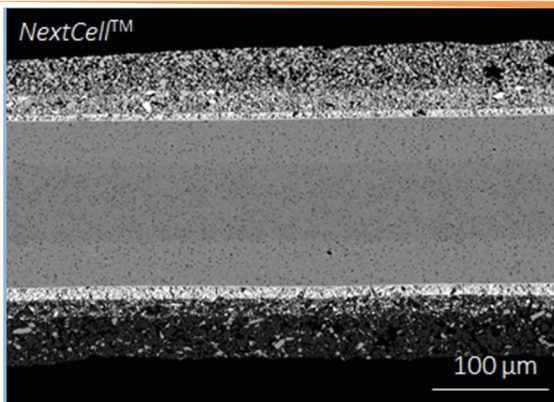
## Performance Comparison



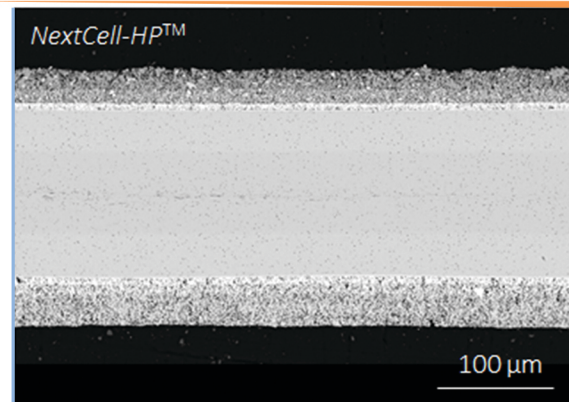
## Performance Comparison



## NextCell



## NextCell-HP



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