

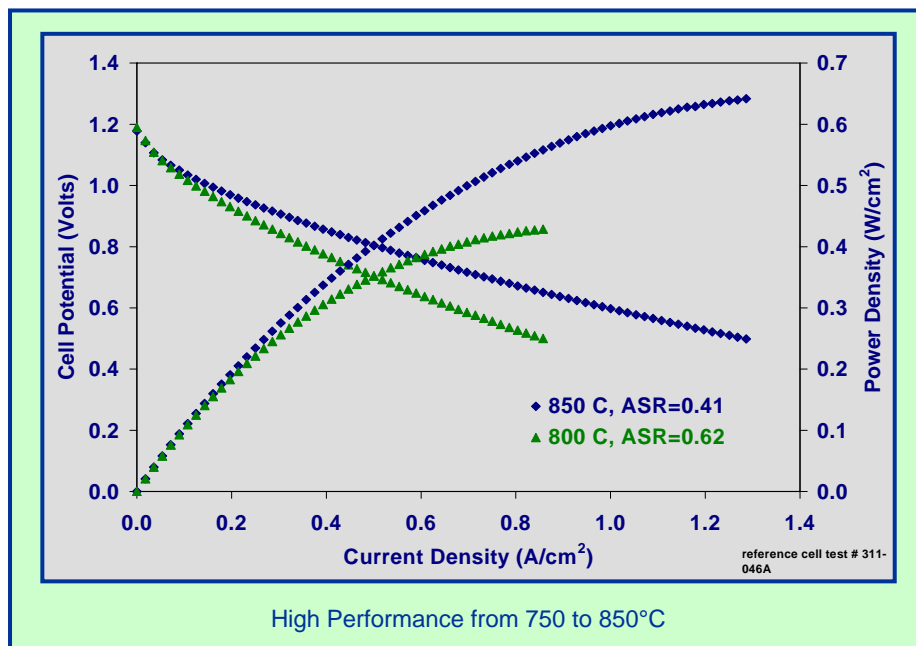
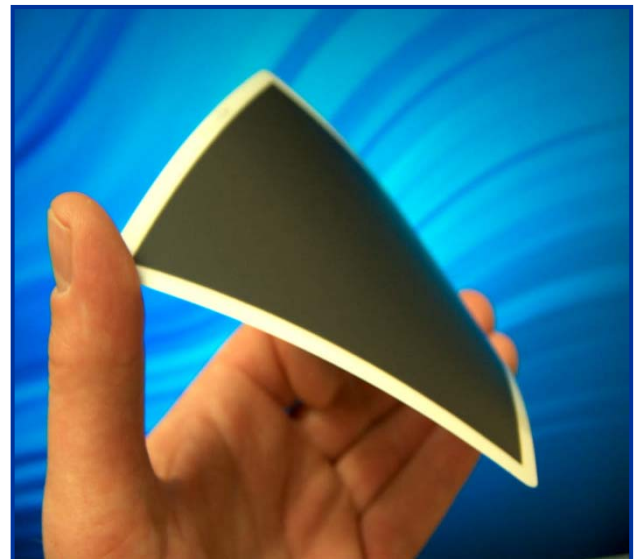


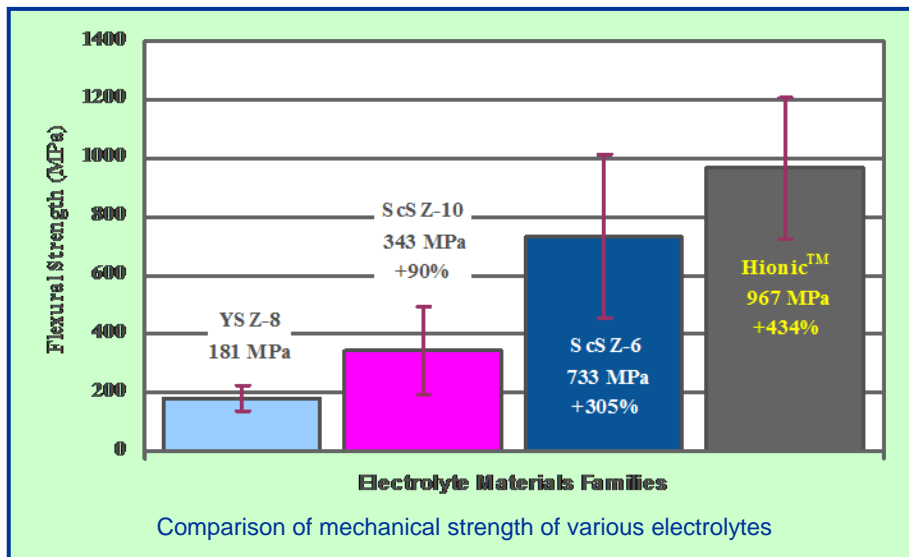
# NextCell™ Advanced Electrolyte Planar Cell

The NextCell™ advanced electrolyte supported cell is designed to be used in high temperature SOFC operations, typically 800-900°C. At these temperatures the performance is excellent, with high power densities, high fuel utilizations and ASR under  $0.5\Omega\text{-cm}^2$  at 850°C ( $0.75\Omega\text{-cm}^2$  at 800°C). These performance levels are enabled by the use of the strong, thin and conductive Hionic™ substrate along with 50  $\mu\text{m}$  layers of advanced multi-layer composite anodes and cathodes.

Electrolyte supported cells offer many advantages in fuel cell stacks. These include:

- High structural integrity
- Simple sealing
- Anode and cathode flexibility
- High fuel utilization
- Amenable to cyclic operations





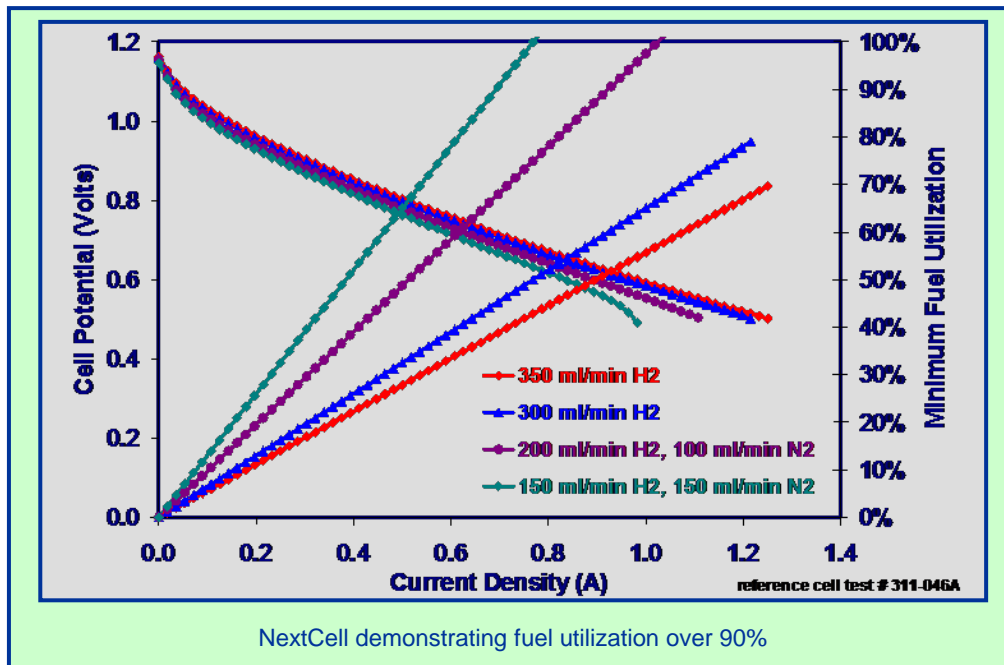
The NextCell uses the patent-pending Hionic™ electrolyte support that is as strong as or stronger than ScSZ-6 electrolytes, with conductivity similar to that of ScSZ-10. The NextCell is more flexible and more rugged in stack assembly and fuel cell operation than comparable high performance cells.

### Specifications

- 150 μm (+/-15 μm) Hionic zirconia-based electrolyte
- 50 μm Ni-GDC/Ni-YSZ multi-layer anode
- 50 μm LSM/LSM-GDC multi-layer cathode

### Standard Offerings

- 10 x 10 and 5 x 5 cm<sup>2</sup> squares
- 20, 25, 28 and 32 mm diameter button cells
- Cathode/Hionic or Anode/Hionic bilayer buttons
- Other sizes and shapes upon request



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