

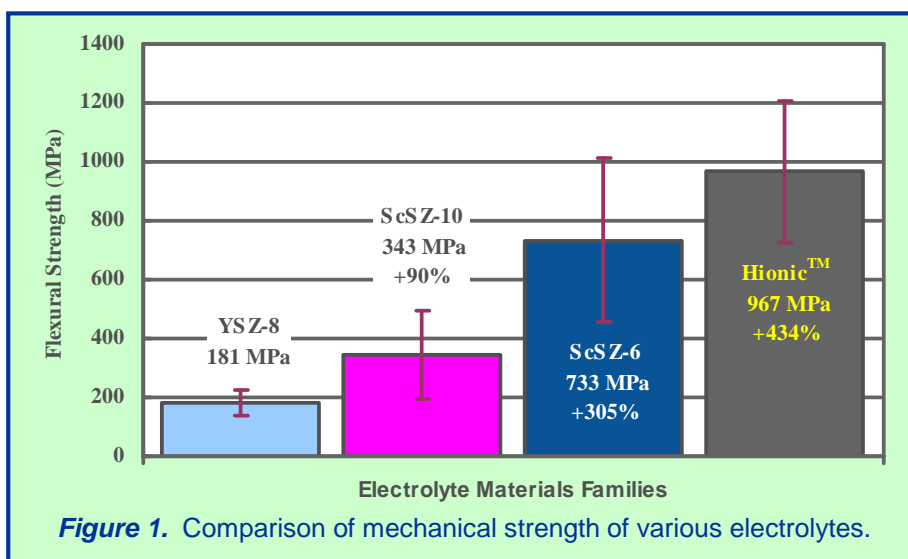
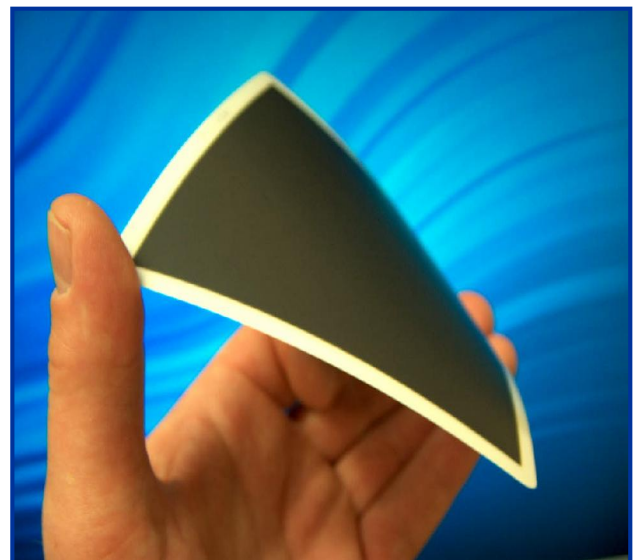


# NextCell™ Advanced Electrolyte Planar Cell

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 more than four times stronger than fully stabilized YSZ-8 electrolytes, with conductivity surpassing that of YSZ-8. The NextCell is more flexible, yet more rugged in stack assembly and fuel cell operation.



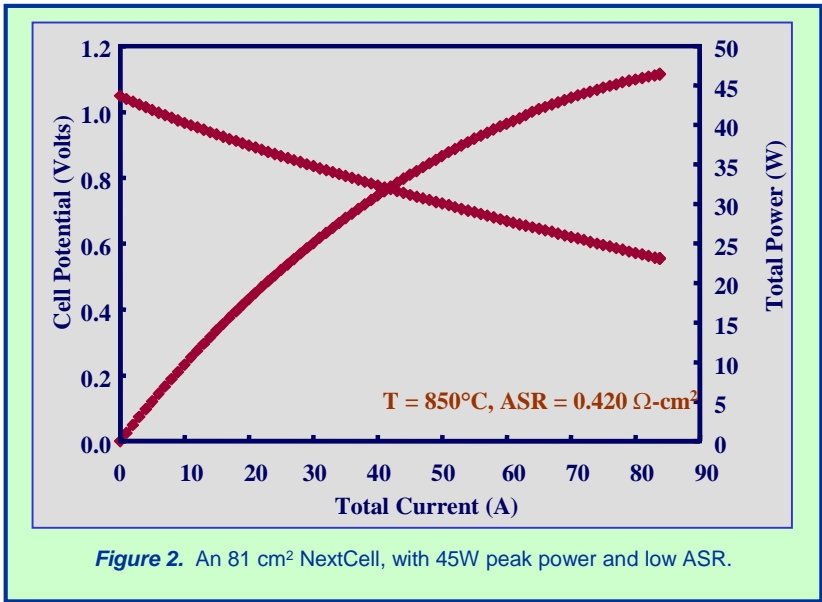


Figure 2. An 81 cm<sup>2</sup> NextCell, with 45W peak power and low ASR.

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 less than 0.5Ω-cm<sup>2</sup>. These performance layers are enabled by the use of thin and conductive Hionic substrates along with 50 μm layers of anode and cathode materials. NextCells and the materials of construction are available from Fuel Cell Materials ([www.fuelcellmaterials.com](http://www.fuelcellmaterials.com)), a division of NexTech Materials, Ltd.

### Specifications

- 120-150 μm Hionic™ zirconia-based electrolyte
- 50 μm Ni-GDC anode
- 50 μm LSM-based cathode (others available)

### Standard Sizes

- 10 x 10 and 5 x 5 cm<sup>2</sup> squares
- 28 mm diameter button cells
- Other sizes and shapes upon request

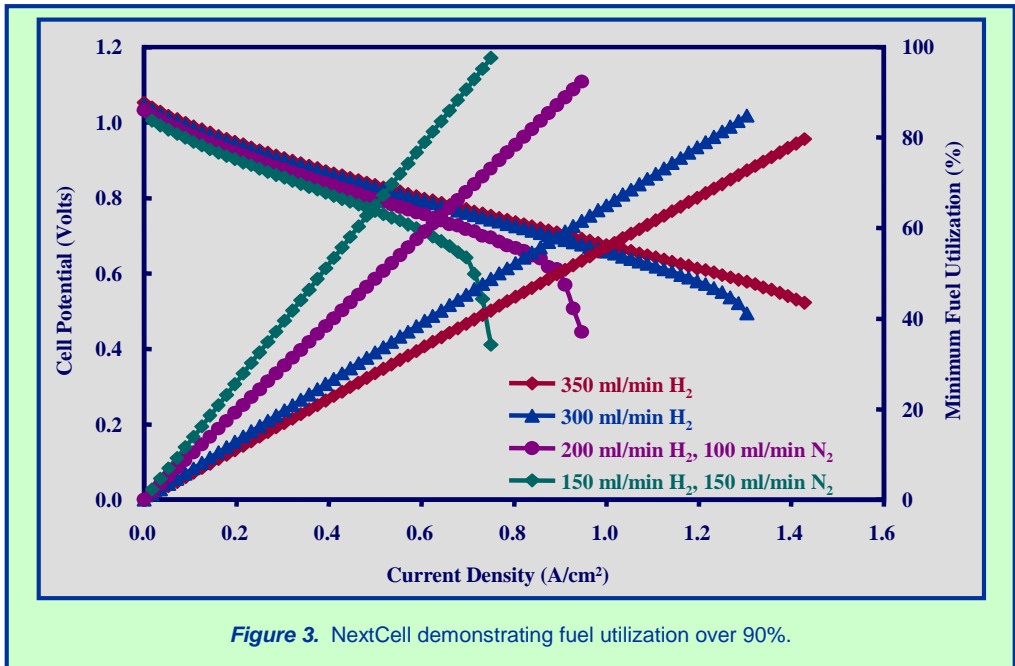


Figure 3. NextCell demonstrating fuel utilization over 90%.

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