

Assessed “best electrode performance” and “the most repeatable silicon powder source batch-to-batch” by the US DOE’s Vehicle Technology Office.



Argonne National Lab Concludes That Paraclete Energy’s Silicon Increases Rate Capability From 1C to 8C, Improves Capacity Retention, and Energy Density.



The Argonne National Lab Study on Extreme Fast Charging

- Increasing the Paraclete Energy Si amount in the composite anode improved the rate capabilities, specific capacity, and cyclability of the cells.
- The addition of Paraclete Energy’s Si was shown to reduce the possibilities of Li plating when a thin electrode was used to maintain a similar capacity compared to that of the Gr only electrode.
- The study shows that the addition of Paraclete Energy’s Si increases the rate capability from 1C to 8C and improves the capacity retention in early cycles at 6C due to reduce over potential in constant current charging cycles.

Once again, Paraclete Energy's silicon proves to be the leading active material for Li-ion batteries.

Customers are reporting energy densities as much as 5.6X that of graphite-only anodes, and 5X the energy density projected by leading competitors in the silicon anode market.

The Paraclete Energy Advantage

- Paraclete Is a USA Company.
- Domestic & International Patents (USA, China, Canada, EU, Japan, Korea, etc.)
- Existing Production Capacity (Grams to Tons!)
- Current Customers Are EV & Cell Manufacturers

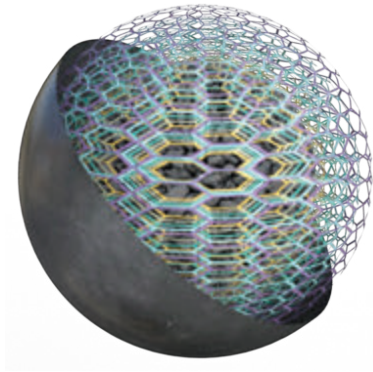
Paraclete SM-Silicon/3590™: — Disruptive increases in EV range and disruptive performance in fast charging. All with the cycling performance of Paraclete’s proprietary Paraclete SILO-Safe™ technology. **It turns out that with Paraclete Energy you can have it all!**

Paraclete Energy proves to be the leading active material for Li-ion batteries and extreme fast charging.

TECHNICAL

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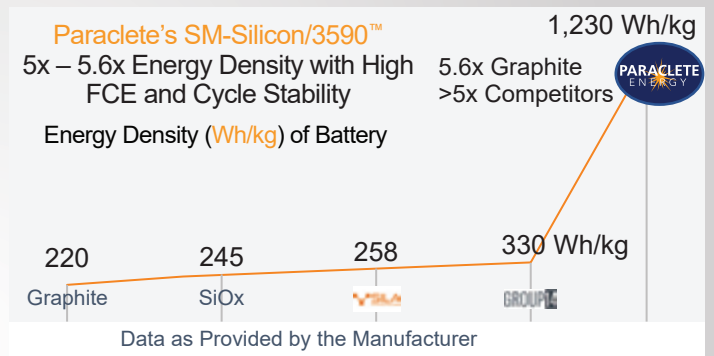
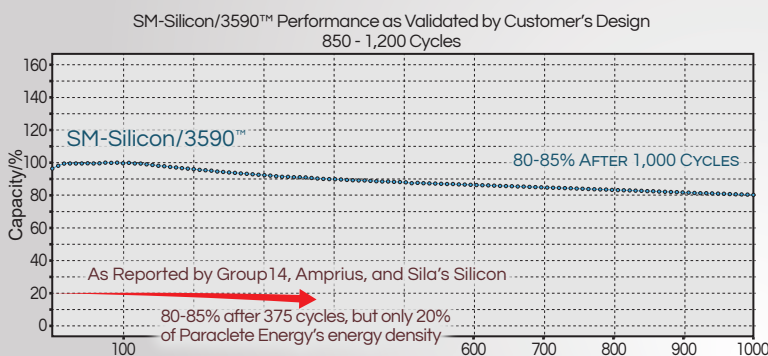
The typical solution when dealing with silicon in a Li-Ion or Solid Electrolyte Battery is to use a costly, high-temperature process to form a hard carbon matrix surrounded by more than 80% inactive carbon material. Instead, Paraclete uses an inexpensive polymer matrix to mitigate the issues of using silicon while using almost all active material, making much higher energy capacity available. The self-healing, highly conductive, cross-linked, elastomeric, porous SM-Silicon/3590™ makes this possible.



Paraclete's SM-Silicon/3590™:

- 5.6 times energy density of graphite
- 5.0 times energy density of closest silicon competitor
- Typical FCE of 90%
- <4% swelling
- Fast charge and cycle stability for EVs
- Cheaper than graphite!

SM-Silicon/3590™ is upwards of **83% silicon per particle**, while competitive silicon anode materials are typically only **17% silicon per particle**. Their product is only a slightly better substitute for SiOx. Paraclete technology mitigates the problems caused by silicon's expansion, while using much less inactive material. More silicon equals more energy – and more miles between charges. It's finally that simple.



Request a Sample.
Paraclete Has It Now!
Contact Paraclete Energy To Evaluate
SM-Silicon/3590™ To Prove It for Yourself.