



# Alkegen Battery Group

NAATBatt 2023

**2023**



Global Leader In Specialty Materials Solely Focused On Sustainability & Human Health

15,000+ Employees, 70 Manufacturing Locations ISO9001 & IATF Quality Accredited



Insulation



Filtration



Battery



- Headquarters
- Alkegen Location
- Luyang Location

# Alkegen News

## Clearlake Capital Portfolio Company Alkegen Completes Majority Investment in Luyang Energy Savings Material Co.

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*Alkegen acquires controlling ownership in leading Chinese specialty materials platform*

### Alkegen First to Scale in US Alkegen's 20MT Line in New Carlisle Indiana is Operational



ALKEGEN

## Alkegen Announces Plans to Increase Micro-Fine Glass Fiber Capacity To Support Growing Battery and Filtration Demand

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*Company expanding micro-fine glass fiber capacity in US, Europe, and China to support future growth*



# Battery Technologies

Alkegen battery innovation includes developing advanced materials for thermal barriers and electrical protection, battery separator technology, and revolutionary silicon fiber anode material that enables greater energy density, faster charges, and longer battery life in electric vehicles and consumer electronics.

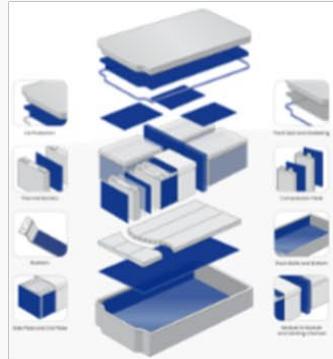
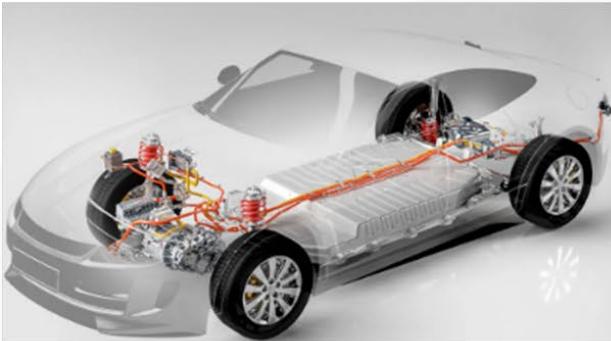


# Alkegen's Battery Group

## In Pack Solutions



### Glass & Ceramic Based Thin Paper/ Film Thermal Barriers

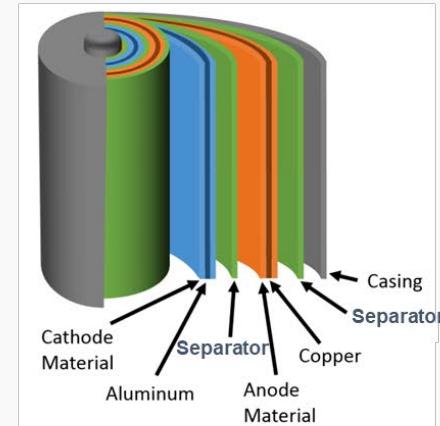


- Market Leading Low Thermal Conductivity
- Flexible – Suitable For Cylindrical & Prismatic Designs
- Controlled Compression Performance (Swelling)

## In Cell Solutions



### Microglass Based Seperator Paper



- 35-60µm, Supports High Charge Discharge Rates
- Solid State Separator Scaffold

- SiFAB- Alkegen's Fibrous Silicon Anode Material; High energy density, scalable technology, resistant to swelling



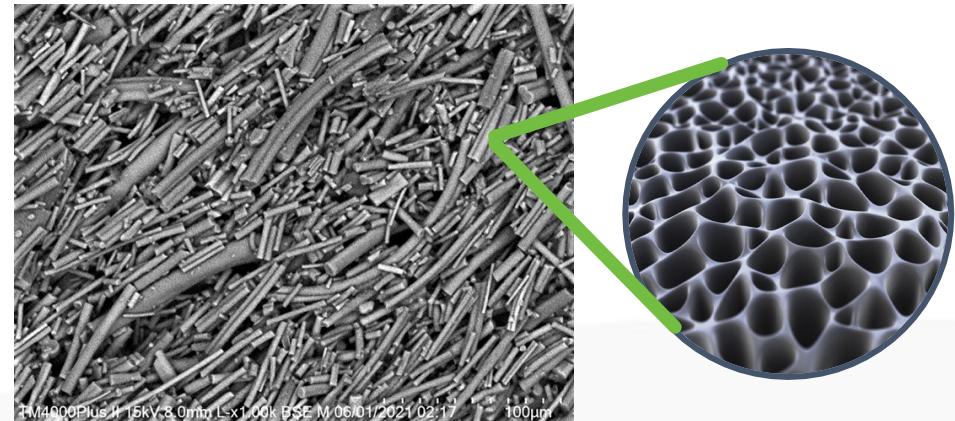
# Battery Group- SiFAB Advanced Silicon Anode

IN CELL SOLUTIONS



# SiFAB Advanced Si Anode

- ✓ High Silicon → High Capacity  
~2,200mAh/g (Reversible)
- ✓ Carbon Composite  
Drop In Solution
- ✓ Porous “Sponge Like” Skeleton
- ✓ Highly Scalable Patented Technology  
Scale With Market Needs



Novel Sponge Like Si Structure  
Fiber ~3µm Diameter



# Alkegen First to Scale in US

*Alkegen's 20MT Line in New  
Carlisle Indiana is Operational*





# Battery Group- LiB In-Pack Solutions

IN PACK SOLUTIONS



# In-Pack Solutions

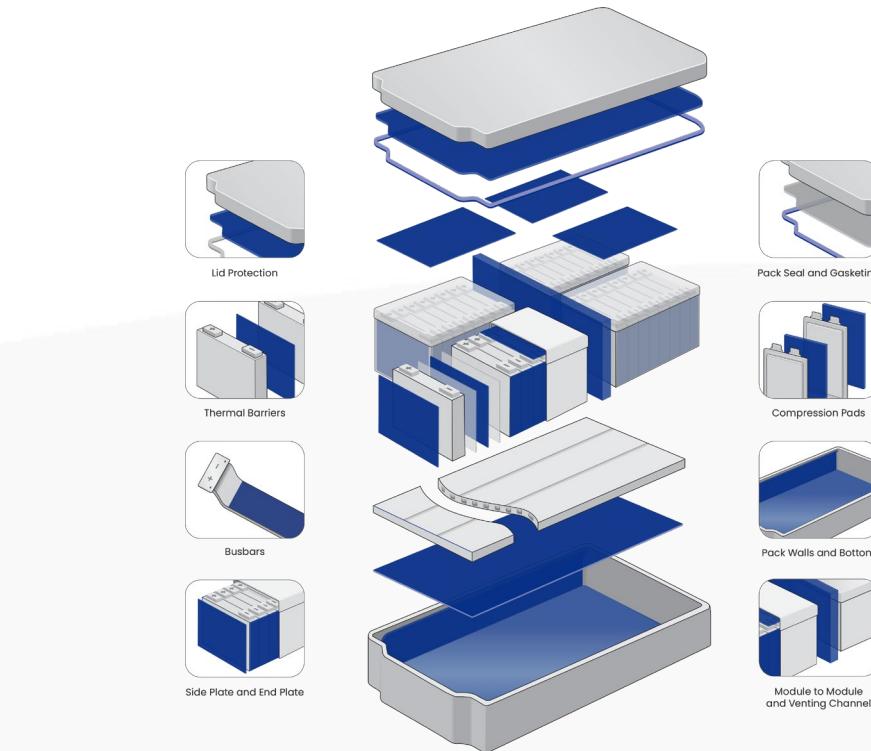
**High-Temperature, Lightweight Products to Reduce Thermal Runaway Propagation and Provide Mechanical, Electrical, And Thermal Protections In The Battery Pack.**

## Alkegen Solutions

- Vertically integrated across multiple inorganic and synthetic fiber and process technology platforms
- Automotive accredited part production and bespoke solutions utilizing papers, felts, coatings, films, 3D shapes, boards, and blankets
- Composite materials combining pressure-sensitive adhesives, mica, foams and other functional layers

## Key Performance Attributes

- High temperature resistance, up to 1600°C
- Low thermal conductivity
- Thin solutions: Starting at 0.15mm and customizable up to 50.0mm
- Lightweight: Densities starting at 127 kg/m<sup>3</sup>
- Dielectric strength: Up to 20kV/mm





# Thank You

## NORTH AMERICA

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