



T E N  
N I N E  
T E C H

# Ten-Nine Technologies

## NAATBatt 2025 Member Update

Jonathan Grunewald, Battery Modeling Engineer



Ten-Nine's mission is to **develop** and **deliver** the world's most powerful and most sustainable battery materials.

# TENIX<sup>®</sup>

A proprietary material that blends with traditional cathodes to boost performance and increase sustainability of both single-use and rechargeable batteries.



**Scaled & ISO  
Certified  
Manufacturing**

**Carbon  
Neutral from  
Cradle-to-Gate**

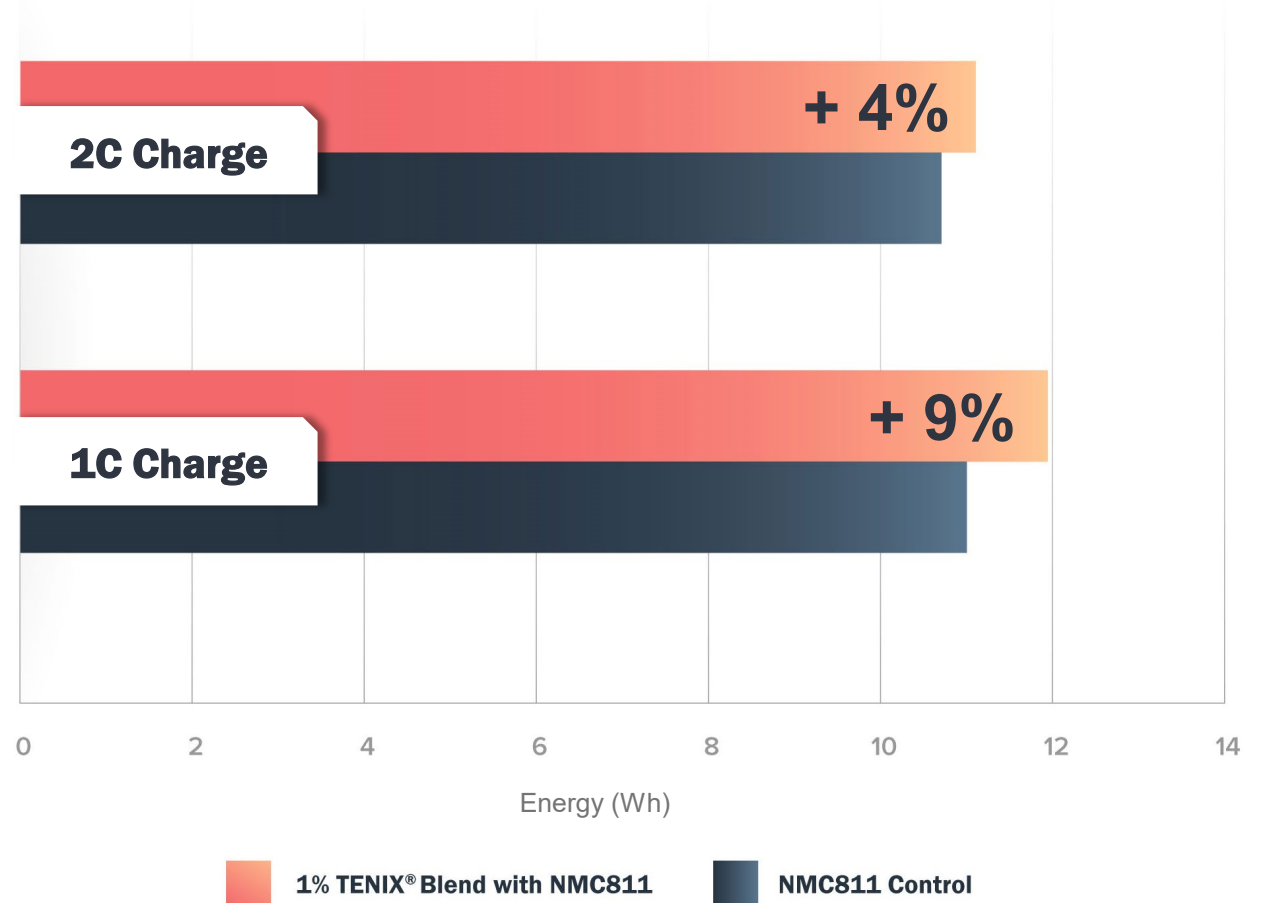
**Tonnage  
Quantities  
Available TODAY**

Just 1%  
of TENIX<sup>®</sup>  
means less time  
spent charging

10  
-  
9

## 21700 Cylindrical Cell Results

4% - 9% More Energy in Constant Current Charging



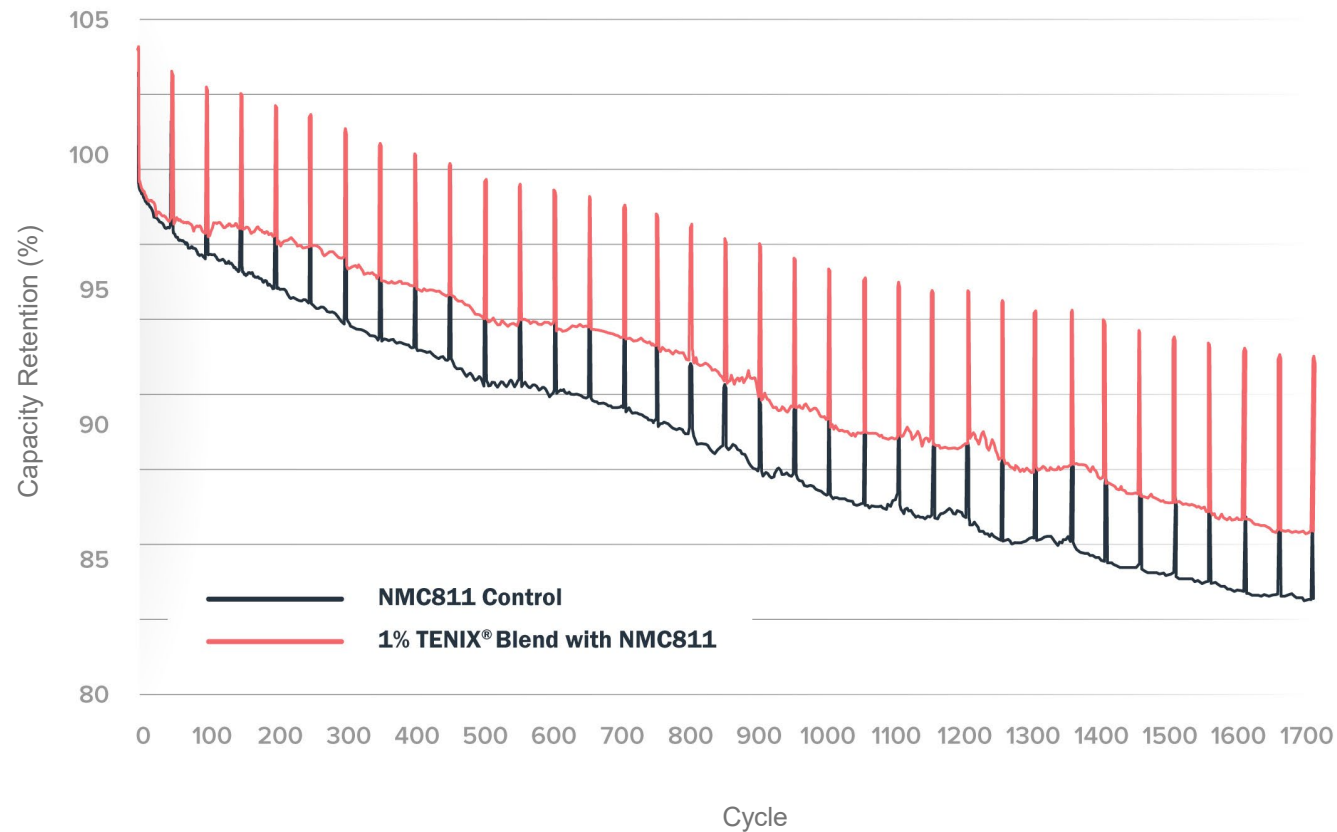
**Format:** 3.9 Ah 21700 cells graphite anode; **Electrode Formulation:** 96% total active material/2% PVDF/2% conductive carbon (TENIX<sup>®</sup> cathode active material consists of 1% TENIX<sup>®</sup> /99% NMC811); **Loading:** 3 mAh/cm<sup>2</sup> electrode; **Electrolyte:** LiPF<sub>6</sub> carbonate blend; **Test Temperature:** Room Temp; **Test Protocol:** Constant Current Charge (1C or 2C) to 4.2V after a C/3 discharge to 3.0V

Just 1%  
of TENIX<sup>®</sup>  
Stabilizes Cycle  
Life

10  
-  
9

## 21700 Cylindrical Cell Results

Cycle Life at 40°C Improved by 25%



**Format:** 3.5 Ah 21700 cells with graphite anode; **Electrode Formulation:** 96% total active material/2% PVDF/2% conductive carbon (TENIX<sup>®</sup> cathode active material consists of 1% TENIX<sup>®</sup> /99% NMC811); **Loading:** 1.5 mAh/cm<sup>2</sup> electrode; **Electrolyte:** LiPF<sub>6</sub> carbonate blend; **Test Temperature:** 40°C; **Test Protocol:** 1C/1C cycling with C/3 RPT

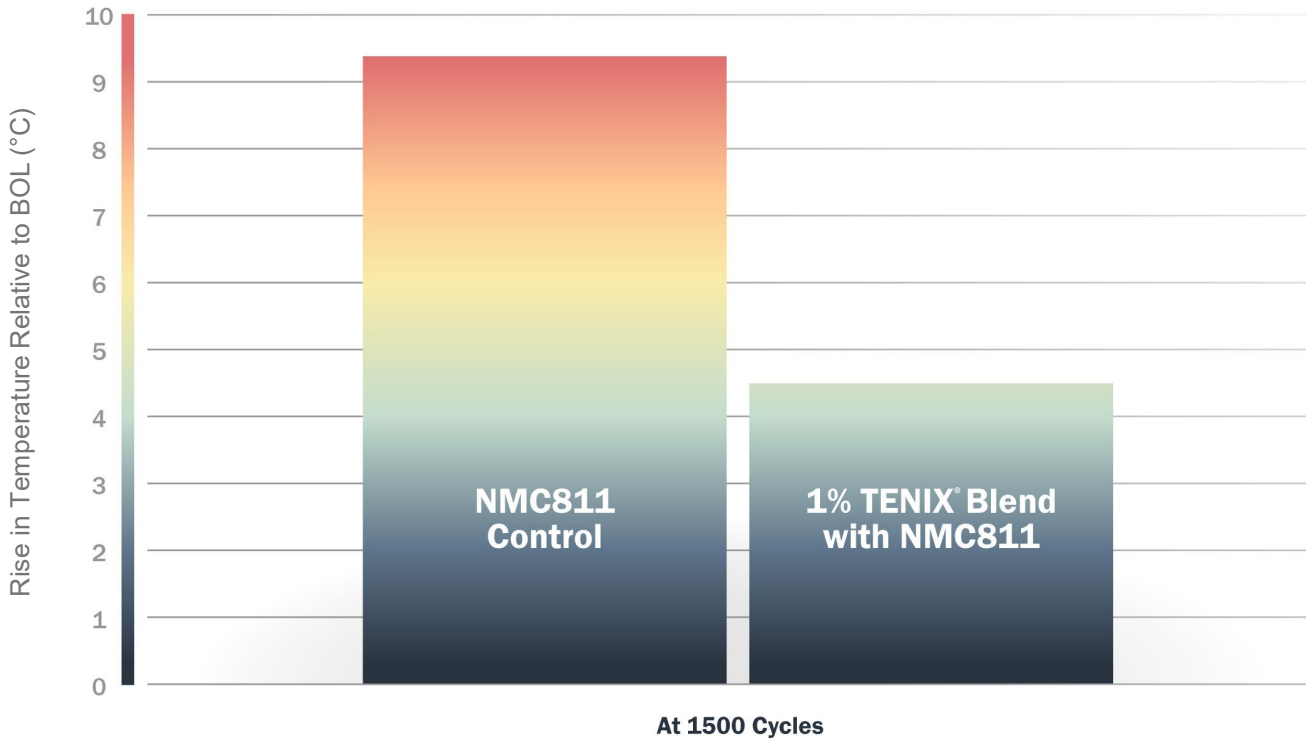
Just 1% of TENIX<sup>®</sup> reduces thermal management needs



10-6

# 21700 Pack Thermal Model

## 50% Reduction in Temperature Rise During Cycling



**Format:** 12 cell (6 series, 2 parallel) Battery pack of 3.0 Ah 21700 cells Single Particle Model (Three cells mirrored four times) with graphite anode; **Electrode Formulation:** 96% total active material/2% PVDF/2% conductive carbon (TENIX<sup>®</sup> cathode active material consists of 1% TENIX<sup>®</sup> /99% NMC811); **Loading:** 1.5 mAh/cm<sup>2</sup> electrode; **Electrolyte:** LiPF<sub>6</sub> carbonate blend; **Test Temperature:** 40°C; **Test Protocol:** 1C/1C Cycling.



TEN  
NINE  
TECH

Join the energy storage leaders who are boosting their battery performance with TENIX.

*Thank you!*