NTeC®-C Reinforcing Additives for Cement
CHASM ADVANCED MATERIALS, INC.

Summary

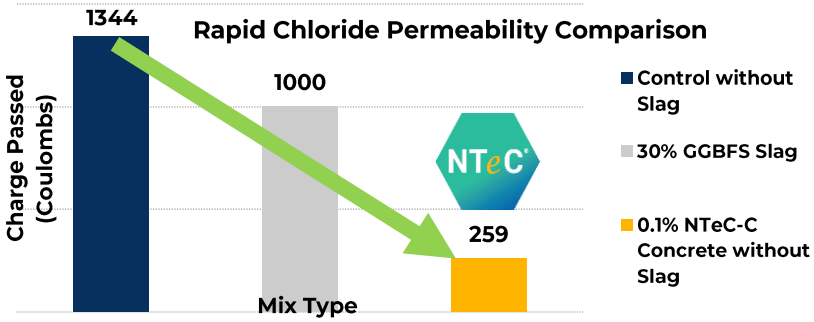
Unlike other low-carbon cement approaches (SCMs, alternative cements, CCUS) with tradeoffs, NTeC®-C Carbon Nanotube (CNT) reinforcing additives **reduce carbon and cost** while **enhancing durability**—enabling low-CO_2e concrete without these compromises

Benefits

- Enables sustainable, cost-effective concrete structures with **higher durability** through **improved corrosion and crack resistance:** More than 80% reduction in chloride penetration at just 0.1% dosage
- Enables **increased use** of lower-cost, lower-CO_2e **supplementary cementitious materials (SCMs)**, supporting low-clinker concrete formulations while maintaining mechanical performance
- Enables **efficient use of cement** in concrete mixtures, enabling lower-cost and lower-CO_2e concrete while achieving the required strength

Exceptional Performance

Data from leading concrete producers show more than 80% reduction in chloride penetration at just 0.1% NTeC®-C dosage. This significantly outperforms both control and slag mixes, delivering superior durability without traditional tradeoffs.



CNTs Role in Decarbonizing Cement

Each year, more than 4 billion tonnes of cement are produced, accounting for 8% of global CO_2 emissions

Globally pursued mitigation strategies include low-CO_2e concrete, improving durability to extend service life, low-clinker cement, more efficient plants, and carbon capture

CNTs can help accelerate the adoption of low-cost, low-CO_2e concrete with enhanced durability

CNT Utilization Challenges

1. **High cost and high capital expenditure**
   While CNTs are known to strengthen concrete considerably, conventional approaches to CNT synthesis with fluidized bed reactors have been expensive and, hence, commercially non-viable
2. **Difficulty of dispersion in cement applications**
   Conventional fluid dispersion methods are impractical for the cement industry and alternatives have yielded poor performance

CHASM Approach to Meet the Need

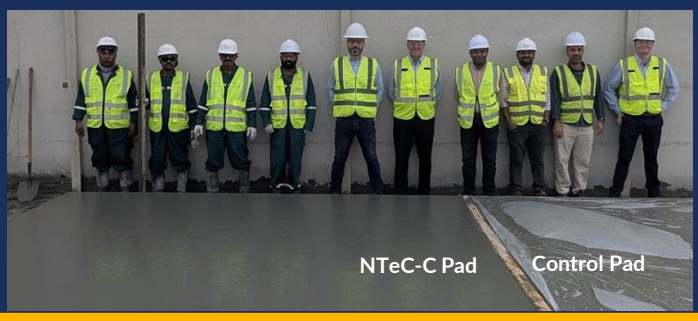
CHASM's approach breaks CNT utilization barriers with:

- Proven production technique scalable to 1500 MT per year, per reactor
- Capital-efficient rotary kiln reactors to synthesize lowest-cost CNT hybrids
- Breakthrough process of deploying CNTs as a "drop-in" admixture

Ready for Field Trials!

Successful Concrete Pour in USA (Nov 2025)

Successful Concrete Pour in KSA (Dec 2025)



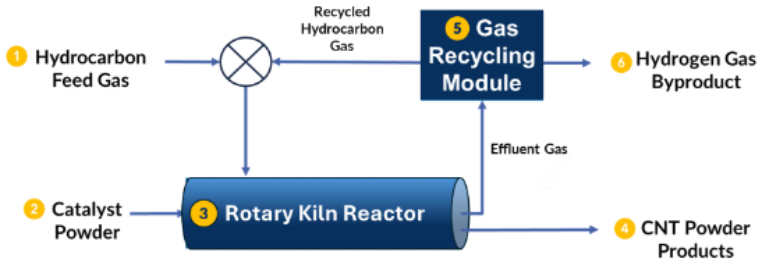
For information about NTeC®-C reinforcing additives for cement
Contact: Sales@chasmtek.com.
Chasmtek.com

NTeC ®-C Reinforcing Additives for Cement

CHASM ADVANCED MATERIALS, INC.

Scalable, Low-Cost CNT Production

CHASM's new CNT production platform offers the most scalable, cost-efficient and sustainable approach for mass production of low-cost CNTs tailored for the cement industry.



Cost and scalability advantages result from the combination of CHASM's unique catalyst and rotary kiln reactor technologies for CNT synthesis. This enables a smaller reactor footprint and sustainable separation and recycling of reactor output.

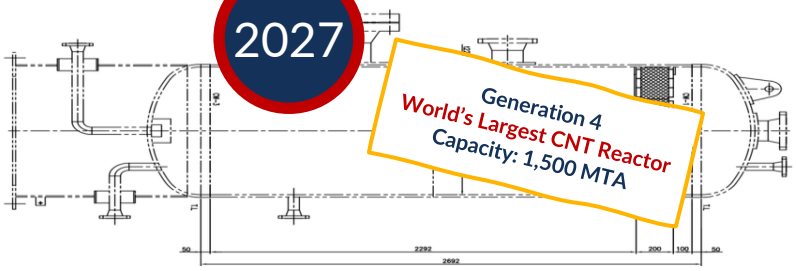
World's Largest CNT Production Network

CHASM is building the world's largest CNT production network via **technology licensing,** using proprietary catalysts and rotary kilns to deliver low-cost, high-performance CNTs at scale, with world's largest reactor targeted for 2027 deployment

2022

Generation 3
Capacity: 50 MTA
Norman, OK, USA

2027

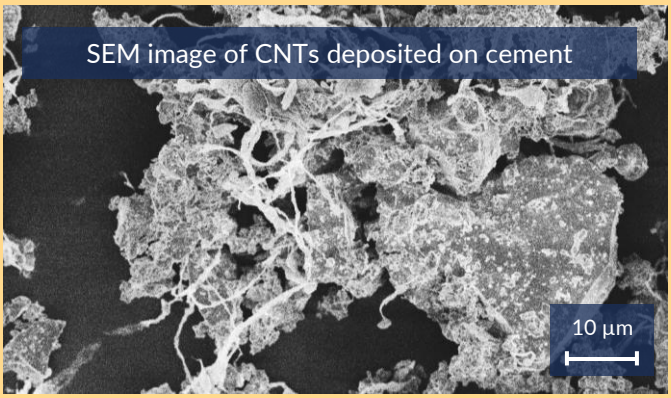


Safe & Easy Dispersion Technology

World's first proven solid-state CNT dispersion in cement

CHASM has demonstrated how its NTeC-C formulation can be firmly deposited onto cement particles and is developing proprietary methods for easy and safe dispersion.

Proprietary Methods for Easy & Safe Integration*



***Seeking licensees and validation partners to scale, validate, and drive adoption in construction**

Teaming up with global industry leaders to scale adoption. Join us!

For information about NTeC®-C reinforcing additives for cement
Contact: Sales@chasmtek.com.
Chasmtek.com