



**UNIVERSAL  
MATTER**

ADVANCED MATERIALS

**USING CARBON TO DECARBONIZE**

# CEMENT & CONCRETE



## This Changes Everything...

Universal Matter upcycles carbon into graphene and related advanced materials to boost the performance and sustainability of your innovations.

## Fully Formulated Graphene-Based Solution

Our process delivers high quality, economical graphene and related advanced materials from simple carbon feedstocks enabling optimized solutions that enhances performance and reduce carbon footprint.

- ✓ **High quality graphene**
- ✓ **Fully formulated dispersions with tunable morphologies & structures**
- ✓ **Value-adding performance benefits**
- ✓ **Highly sustainable**



## Introducing **Genable™ Decarbonizer** *Graphene-Enhanced Liquid Admixture*

We understand the challenges faced by cement and concrete chemists. Our unique admixture offers value adding performance and sustainability benefits.

## Improved Mechanical Performance and Durability

- ✓ Improved hydration leading to increased compressive strength by **25% - 35%**

## Decrease Cement Usage

- ✓ Potential for a **15%** reduction in mix design cement content without impacting durability

## Enabling Increased SCM utilization

- ✓ Allows for higher levels of supplementary cementitious materials by overcoming delayed early strength development issues

## Reduce Carbon Footprint

- ✓ Potential to reduce the global cement industries total greenhouse gas emissions

**Genable™ Decarbonizer**

# **Genable™ Decarbonizer**

## **Elevating Performance, Embracing Sustainability**

**Genable™ Decarbonizer**, a groundbreaking concrete admixture offers an unprecedented choice:

- significantly increase your concrete's compressive strength
- or maintain standard strength while reducing cement content.

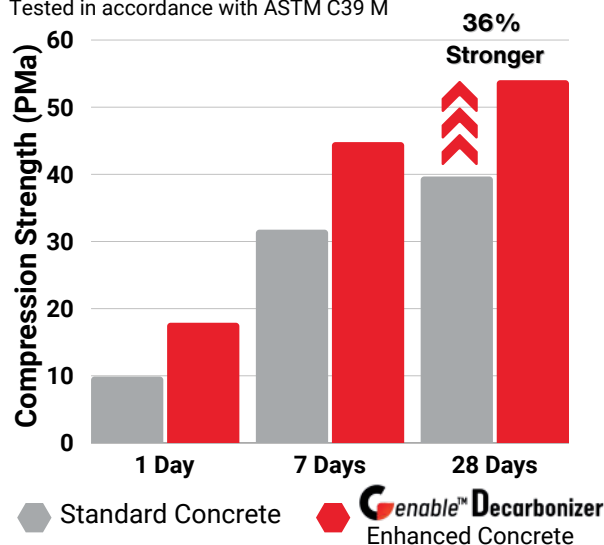
By enabling a significant reduction in cement usage, we're helping decrease the carbon footprint of concrete production without compromising on performance.

Whether you're aiming for unparalleled strength or eco-friendly construction, **Genable™ Decarbonizer** delivers the flexibility and performance you need to stay ahead

### **Outstanding Compression Strength Performance**

#### **Standard Cement Mix Design**

Tested in accordance with ASTM C39 M



- ✓ Early and late strength development
- ✓ Increased cement durability
- ✓ Enables increased SCM utilization without performance compromises
- ✓ Offers the potential for significant reduction in cement content
- ✓ Decrease carbon footprints, building a more sustainable future

### **Enabling Innovative Concrete Possibilities**

**Commercial Project: Horizontal Silage Bunker - May 2024**

- ✓ Improved durability of concrete
- ✓ **15%** reduction in the mix design cement content
- ✓ Increased protection to lactic acid attack from corn silage fermentation



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