



**UNIVERSAL
MATTER**
ADVANCED MATERIALS

USING CARBON TO DECARBONIZE

PAINTS & COATINGS

This Changes Everything...

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

Flash Joule Heating Process

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



High Quality: Few layer, defect free



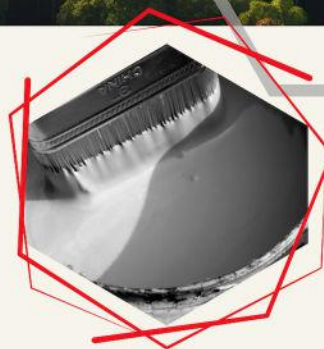
New Morphologies: Polyhedral Graphene



More Economical: High volume, efficient process



Highly Sustainable: Energy Efficient, using waste, upcycle and recycled carbon



We understand the challenges faced by coatings formulators. Our unique **Genable™** additives offer value adding performance and sustainability benefits.

Barrier Improvement

- Anti-corrosion
- Chemical resistance
- Water barrier
- Gas permeability

Mechanical Properties

- Abrasion resistance
- Tensile strength
- Impact resistance

Conductivity Applications

- Electrical conductivity
- Anti-static dissipation
- Thermal conductivity

Electromagnetic Spectrum

- UV protection
- EMI shielding



Genable™ GRAPHENE DISPERSIONS



Outstanding compatibility and in-can stability



Easy to formulate and safe to incorporate



Optimised properties designed for performance



UNLOCKING THE POTENTIAL OF GRAPHENE

We are Reinforcing your Innovations...



Outstanding Barrier Performance

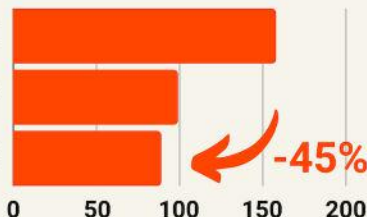
Addition of graphene increases the tortuous path through the coating offering outstanding **anti corrosion** and **chemical resistance protection**.



Epoxy Control

0.05% GNP

0.5% PG



Abrasion Resistance
(mg loss/1,000 cycles)

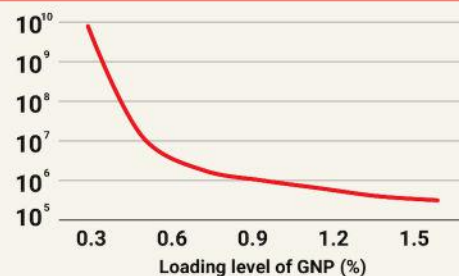
Mechanical Uplifts

Adding a reinforcing structure to your coating with the potential to improve **impact** resistance, **tensile strength**, **elongation**, **abrasion** and **erosion** resistance.



Conductivity

Whether you are looking for **electrically conductive**, **anti-static dissipative** or **thermal conductivity coatings**, graphene has the potential to be the key to your innovation success.



Sheet Resistivity
(Ω.cm)



2.50

2.00

1.50

1.00

0.50

0.00



UV Resistance - Delta E*
(after 500hrs exposure)

UV and EMI Shielding

Graphene absorbs and dissipates **UV radiation**, mitigating the effects of exposure such as color degradation. Also graphene has the potential to enhance **electromagnetic shielding**, protecting devices from interferences.

Global Player with a Local Presence

UM has a network of production and innovation centers, and increasing global coverage of distribution partners. This enables us to offer consistent supply of high quality products and offer the technical support our customers deserve.



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