



# E-GO™ in Epoxy + Carbon Fiber Systems

MITO® Material Solutions' flagship product, E-GO, has been designed with versatility, realistic solutions, and accessibility in mind. E-GO is a hybridized graphene oxide/POSS additive which reactively disperses while resisting agglomeration -- unlocking the properties of graphene for various industries by both utilizing thermoset and thermoplastic polymer composites. With a MITO Powered™ epoxy + carbon fiber composite, you can create a stronger, lighter component that transfers less vibrations and less noise to the user.

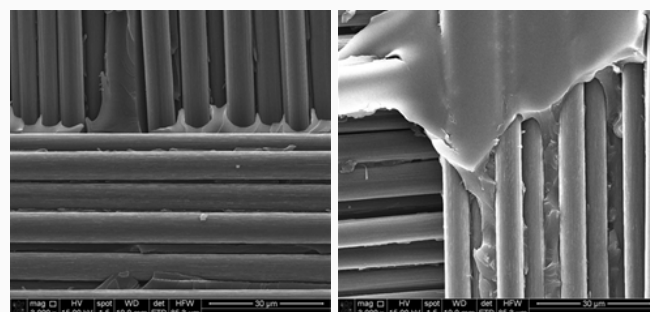
## DISPERSION & INTEGRATION

**E-GO has been designed to seamlessly integrate into your manufacturing method:**

- Shear mixing
- Three roll milling
- Spray applications

Simply measure and mix as normal **at loadings as low as 0.1%** by weight of resin.

## SEM 5000X MAG | FIBER-MATRIX ADHESION



Within a carbon fiber pre-preg system:  
Control (left), Same with 0.1%wt E-GO (right)

## COLLABORATION

### EXPLORE

We want to work with you and know your story. MITO partners with a variety of industries interested in enhancing material performance. In order for us to help, we need to understand your current materials, processes, and goals so we can recommend the best MITO solution for your needs.

### EVALUATE

Once we establish the benchmarks in your polymer system, MITO can create samples and deliver a custom data set showing a direct comparison. If preferred, our team can also work directly with your team at your facility.

### COLLABORATE

MITO solutions are designed to integrate into the base polymer – before part production – and can be distributed commercially via direct sales or by distributing through your polymer supplier/compounder. This ensures seamless integration into your supply chain without added time or process interruption.

## MAKE YOUR COMPOSITES TOUGHER AND LIGHTER THAN EVER BEFORE



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TESTING METHOD	PROPERTY	UNITS	CONTROL	0.1%wt E-GO	% DIFFERENCE
<b>TENSILE</b>	Maximum force withstood	kN	-	-	-
	Modulus at break	MPa	-	-	-
	Strain at break	%	-	-	-
<b>FLEXURAL <sup>1</sup></b> ASTM D790	Maximum force withstood	kN	0.55	0.68	21%
	Modulus at break	MPa	59356	63955	7%
	Strain at break	%	1.46	1.86	26%
<b>COMPRESSION</b>	Maximum force withstood	kN	-	-	-
	Modulus at break	MPa	-	-	-
	Strain at break	%	-	-	-
<b>IMPACT</b>	Izod impact resistance	J / m	-	-	-
<b>FRACTURE TOUGHNESS <sup>2</sup></b> ASTM D3433	G <sub>1c</sub>	kJ / m <sup>2</sup>	0.72	1.25	54%
<b>DYNAMIC MECHANICAL <sup>1</sup></b> ASTM D7028	Storage modulus	MPa	10000	9473	-5%
	Viscous modulus	MPa	-	-	-
	Dampening coefficient		-	-	-
<b>GLASS TRANSITION <sup>1</sup></b>	T <sub>G</sub>	°C	96	96	0%
<b>ELECTRICAL RESISTIVITY <sup>1</sup></b> ASTM D257	Resistivity through plane	Ohm · m	0.43	1.36	104%
	Resistivity in plane	Ohm · m	3.20E-04	2.33E-03	152%

*\*All tests were conducted according to ASTM standards.*

*<sup>1</sup>Samples: 2x2 twill carbon fiber, BPA epoxy, post cured 100 °C for 2 hrs, 50% RH +/-5%*

*<sup>2</sup> Samples: TCR UF3352 Pre-preg carbon fiber, cured via hot press according to product specification*

**Not seeing a property you need?** Contact MITO with any inquiries and our highly trained team will work with you and your engineers to design a study with your specific material requirements in mind.