MITO® ACRE™

MITO® Material Solutions' corn-starched based product, ACRE™, a renewable and sustainable additive, enhances the performance of plastics.

ACRE™ promotes adhesion and improves flex, tensile, and impact properties. It is designed to integrate into existing polymers and manufacturing methods with variable loading options depending on polymer and desired performance. ACRE™ replaces non-renewable fillers and does not alter optical properties for added design flexibility. With ACRE™, plastics become lighter, stronger, and more durable, making it a sustainable choice for improved product performance.

DISPERSION & INTEGRATION

MITO® ACRE™ has been designed to seamlessly integrate into your manufacturing method:

- Shear Mixing
- Three Roll Milling
- Spray Applications

ACRE™ loadings depend on polymer and desired performance. Thermal and Permeability properties will be added in the future.

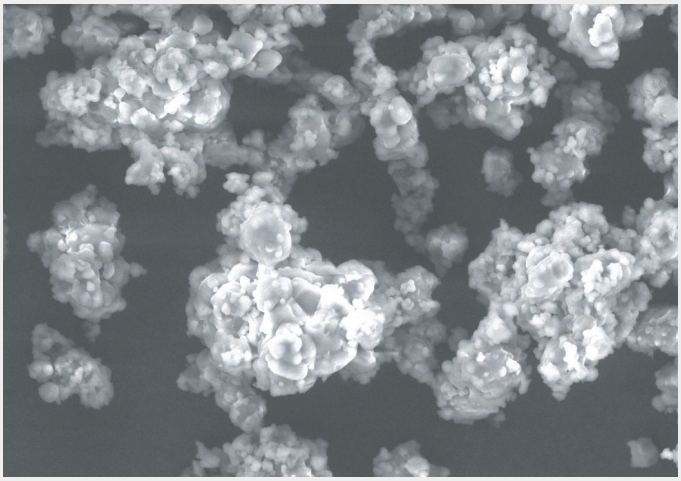
COLLABORATION

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.

SEM 5000 X MAG



MAKE YOUR COMPOSITES TOUGHER AND LIGHTER THAN EVER BEFORE

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TESTING METHOD	PROPERTY OBTAINED	UNITS	CONTROL	0.5% WT ACRE	% Difference	1% WT ACRE	% Difference	2% WT ACRE	% Difference
TENSILE (ASTM D638)	Tensile Strength	Mpa	68.59	79.74	16%	66.11	-4%	-	-
	Tensile Modulus	GPa	3.41	3.39	1%	3.51	3%	-	-
	Strain at Break	%	2.93	3.64	20%	2.76	-6%	-	-
FLEXURAL (ASTM D790)	Maximum Force Withstood	kN	142.21	139.24	-2%	165.59	14%	164.23	13%
	Modulus (at break)	MPa	7.8	7.5	-4%	7.9	2%	8.40	8%
	Strain (at break)	%	1.85	1.87	1%	1.95	5%	1.99	7%
COMPRESSION (ASTM D695)	Maximum Force Withstood	kN	-	-	-	-	-	-	-
	Modulus (at break)	MPa	-	-	-	-	-	-	-
	Strain (at break)	%	-	-	-	-	-	-	-
IMPACT (ASTM D256)	IZOD Impact Resistance	J/mm	0.099	0.12	17%	0.126	20%	0.13	23%
FRACTURE TOUGHNESS	G_{1C}	kJ/m2	-	-	-	-	-	-	-
DYNAMIC MECHANICAL (ASTM D7028)	Storage Modulus (Elastic modulus)	GPa	-	-	-	-	-	-	-
	Viscous Modulus (Loss modulus)	GPa	-	-	-	-	-	-	-
	Dampening Coefficient (Tan D)	-	-	-	-	-	-	-	-
GLASS TRANSITION TEMP (ASTM D7028)	T_G	°C	-	-	-	-	-	-	-
ELECTRICAL RESISTIVITY (ASTM D257)	Resistivity Through Plane	Ohm · m	-	-	-	-	-	-	-
	Resistivity In Plane	Ohm · m	-	-	-	-	-	-	-

*All tests were conducted according to ASTM standards using ACRE™ in Epon 828.

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.