



Specialty MINERALS

Mineral Additives for Automotive TPO



Our Commitment

Understanding Your Needs, Exceeding Your Expectations

Specialty Minerals Inc. is a global provider of mineral additives used in thermoplastic polyolefin compounds for the production of automotive parts. We understand that automobile manufacturers and their component suppliers continue to focus on several critical initiatives, such as:

- Reducing the total weight of their vehicles in order to increase fuel efficiency
- Reducing material costs without compromising performance
- Increasing manufacturing efficiency through innovation

At Specialty Minerals, we have dedicated our research and development efforts towards creating mineral additives that allow TPO compounders to



meet these desires. Our single focus is to supply you with additives that enable the formulation of compounds to:

- Increase impact resistance, especially at desired low temperatures
- Reduce part weight while maintaining durability
- Increase brightness and reduce variability for color-critical compounds
- Improve scratch & mar resistance

Whether it is the introduction of our **EMforce**[®] additive, a carbonate-based engineered mineral that achieves performance results unachievable with competitive offerings, or the expansion of our high-brightness **FlexTalc**[®] line to include sub-micron products that push the balance of stiffness and toughness higher and higher, you can trust that Specialty Minerals continues to push the envelope in mineral additives for automotive compounds.

EMforce® Additive

Taking TPO To An All-New Low

Low temperature, that is. EMforce® additive is a calcium-based, engineered mineral designed for superior performance in TPO formulations, especially at cryogenic temperatures. EMforce® additive has shown the following benefits in automotive TPO formulations versus fine talc and glass fiber formulations:

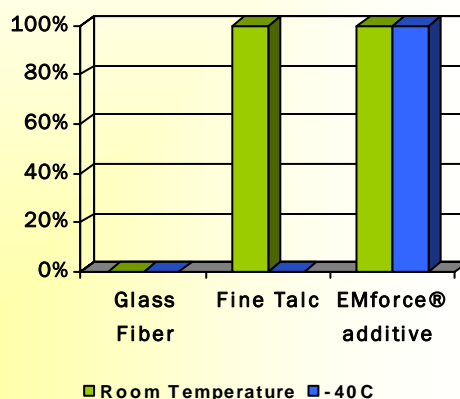
- Maintainability of 100% ductility at cryogenic temperatures (-40° C) with lower impact modifier levels
- Improvement in the balance between toughness & stiffness
- Higher brightness and batch-to-batch color consistency
- Increase in scratch & mar resistance

EMforce® additive is a high aspect ratio synthetic mineral that has a dry brightness higher than even the brightest talc available. In its' compounded form, EMforce® additive provides high brightness, gloss and unmatched consistency that will facilitate beautiful mold-in-color compounds, eliminating costly, time-consuming painting. The low temperature ductility of the EMforce® additive is ideal for many automotive applications, including:

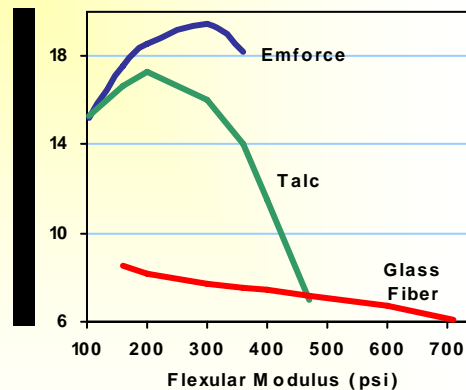
- Bumper Fascia
- Interior Console & Panel
- Air Bag Covers

Specialty Minerals plastics applications experts are available to help you optimize your TPO compound with EMforce® additive. You will find that our analytical and applications expertise is unrivaled in the mineral additive industry.

Dynatup Ductile Failures
(EO=17.5%, Additive=15%)



Stiffness / Toughness Balance



FlexTalc® Talcs

Brightness, Toughness, Stiffness.....Every Time

When compounders ask us for our FlexTalc® products, talc offering the highest compounded color anywhere, we know that appearance is critical to meeting their customers needs. We pride ourselves in our ability to minimize batch-to-batch variability in order to assure that the color critical compounds you make next year are the same as those you made last week, last month, or last year. In addition, our proprietary manufacturing process allows us to supply you with a very tight, consistent particle size distribution at multiple particle sizes.



FlexTalc® products are produced from the highest quality, imported ore source, and have been an integral part of some of the most revered TPO compounds in the automotive industry for several years. We are now proud to introduce our newest product, FlexTalc® 405 talc, a sub-micron talc that has been designed to meet the increasing

demands of the industry. Offering the best balance of stiffness & toughness and superior appearance for color-critical applications, FlexTalc® 405 talc is allowing compounders to create economical TPO formulations to compete with higher cost compounds and engineering resins.



Typical Values	FlexTalc 405	FlexTalc 610	FlexTalc 815	FlexTalc 122
Median Particle Size (microns)	0.6	1.0	2.0	2.5
Topsize PSD 98% (microns)	3.1	8.0	13.0	14.0
Dry Brightness (Hunter Rd Value)	93	93	92	92

Specialty Mineral's Talc

Wide Variety, Unrivaled Consistency

As automobile parts manufacturers continue to broaden the range of performance that they desire in a TPO formulation, Specialty Minerals understands the importance of having a wide variety of talc offerings with varying particle size distributions and colors to meet a compounders every need. What we also know is that a variety of offerings is no excuse to compromise on consistency, as your customers in the automotive industry live and die by quality. Along with our FlexTalc® product line, Specialty Minerals is proud to offer several other product lines designed to meet your needs, each with the reliability and consistency our customers have come to expect:



MicroTuff® AGD Series talcs are fine, densified talc, domestically mined and processed. These products contain a proprietary surface treatment that increases brightness while improving dispersion and improving heat stability for optimal performance in appearance grade TPO formulations.

UltraTalc® 609 talc is a sub-micron, domestically mined talc, designed to yield the critical balance of impact strength and stiffness in automotive TPO formulations.

MicroTuff® 9100 Series talc is a series of high-brightness talcs made from a high quality imported ore source, with a very tight particle size distribution to optimize performance in automotive TPO formulations. These talcs offer excellent tensile strength, flexular modulus, minimal heat distortion, increased stiffness and reduced shrinkage.

MicroTuff AGD609	MicroTuff AGD111	MicroTuff AGD191	UltraTalc 609	MicroTuff 9103	MicroTuff 9107	MicroTuff 9110	Typical Values
0.8	1.1	1.8	0.9	3.8	7.0	10.0	Median Particle Size (microns)
6.0	10.0	12.0	6.0	28.0	30.0	32.0	Topsize PSD 98% (microns)
89	89	89	89	92	91	90	Dry Brightness (Hunter Rd Value)

EMforce® Bio Additive

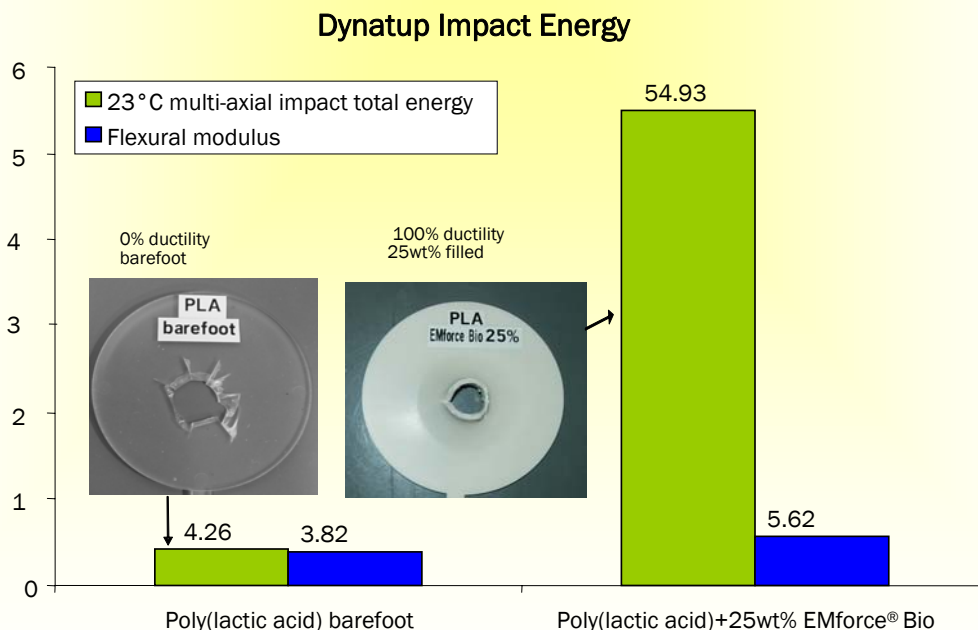
Helping You Make Cars From Corn

Sustainability. A concern on everybody's mind. As Biopolymer availability begins to grow, more and more environmentally conscious automobile manufacturers are looking for ways to become more ecologically responsible, while also lessening their reliance on volatile petroleum-based polymers. Specialty Minerals is proud to introduce its newest engineered mineral for polymer reinforcement; **EMforce® Bio** additive.

EMforce® Bio additive is specially designed to work with biopolymers such as Polylactic Acid (PLA). While PLA is inherently a brittle polymer, EMforce® Bio additive causes an amazing transition to a fully ductile opaque polymer compound with a very high balance of toughness and stiffness. These compounds can be utilized for a myriad of interior applications.



Specialty Minerals Plastics Applications Lab has conducted rigorous studies to understand the effects of EMforce® Bio additive in PLA, and we will be happy to work with you to optimize your formulation, after all, environmental stewardship is always on our minds.



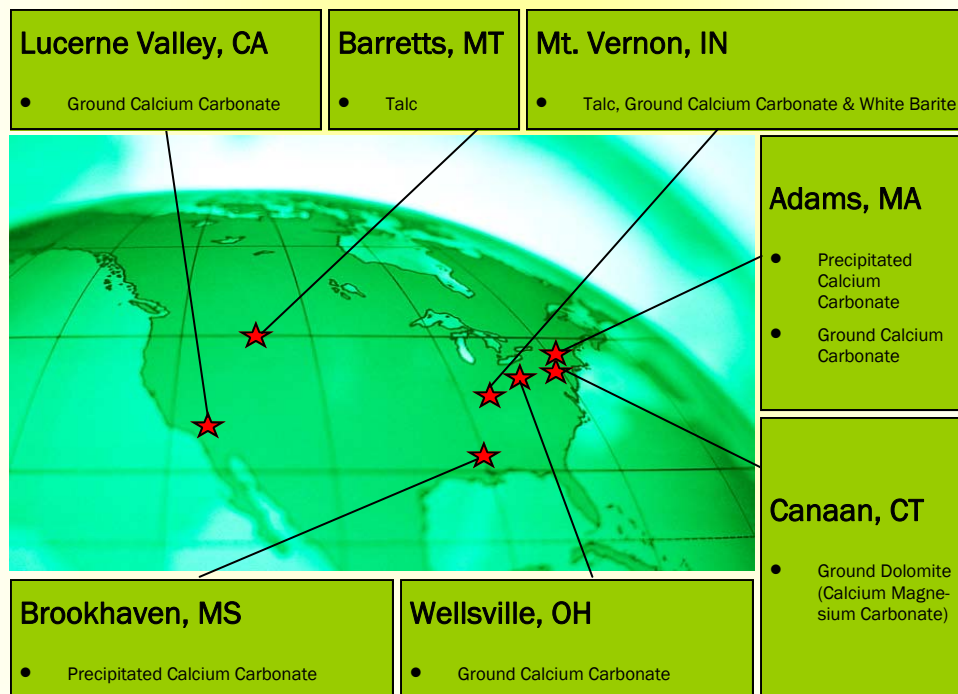
About Specialty Minerals

Corporate Information

Specialty Minerals Inc. (SMI) is a wholly owned subsidiary of Minerals Technologies Inc., a publicly traded company on the New York Stock Exchange (MTX). SMI is an international producer of high-performance minerals: talc, precipitated calcium carbonate, ground calcium carbonate, engineered minerals, lime, dolomite and barite.

Specialty Minerals Inc. headquartered in Bethlehem, PA with manufacturing locations throughout the world, provides raw materials for goods produced in a wide variety of industries, including; plastics, paper, adhesives, sealants, paint, pharmaceuticals, food fortification, nutritional supplements, specialty ceramics, inks, building products, and agriculture.

North American Operations



Specialty Minerals Inc.

35 Highland Avenue
Bethlehem, PA 18017

866-840-6840

www.specialtyminerals.com

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