Polymers

Omyaspace®

A new pigment enhancement for the masterbatch industry







THINKING OF TOMORROW

A new pigment enhancement for the masterbatch industry

Omya is a worldwide distributor of specialty materials and a leading global producer of essential minerals. Omya Specialty Materials, Omya's global sales and distribution business unit, combines a comprehensive portfolio of pigments, binders, additives and mineral-based products. Focused on added value, we offer a global sales network for leading manufacturers and one-stop technical support for customers.

The polymer value chain is no exception to the continuous improvement in cost efficiency and supply chain optimization. Our main goal at Omya is to add customized value to the polymer industry. We develop new calcium carbonate grades to offer our polymer customers everyday functionality, profitability, and sustainability.

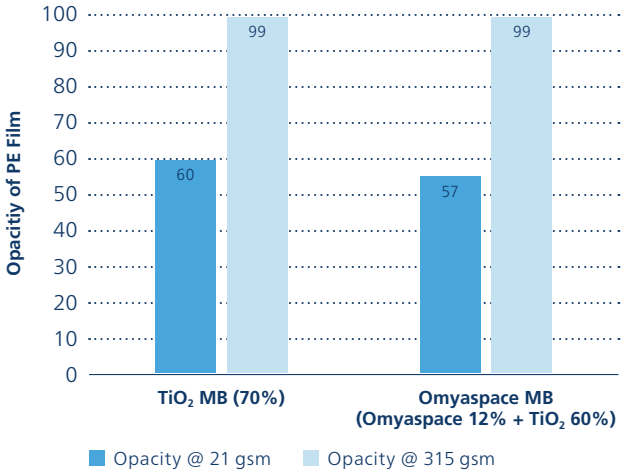
Omya products and solutions improve profitability by lowering raw material costs and increasing productivity. Omyaspace is a new family of mineral additives enhancing the dispersion of pigments in white and color masterbatches.

Omyaspace offers a force multiplier with dual action into the polymer matrix: An action of pigment extension and dispersion improvement, in addition to a self-opacity contribution, making it possible to improve and enhance the original pigment performance in the color masterbatch. White masterbatches containing Omyaspace optimize hiding power and opacity, mainly when applied to film, and molded articles. Masterbatch producers can improve their system's productivity or reduce costs while maintaining the efficiency of the product. Omyaspace supports the performance and quality of the TiO_2 and color concentrate. Increasing the efficiency of resources while enhancing pigment properties is not the only benefit Omyaspace offers.

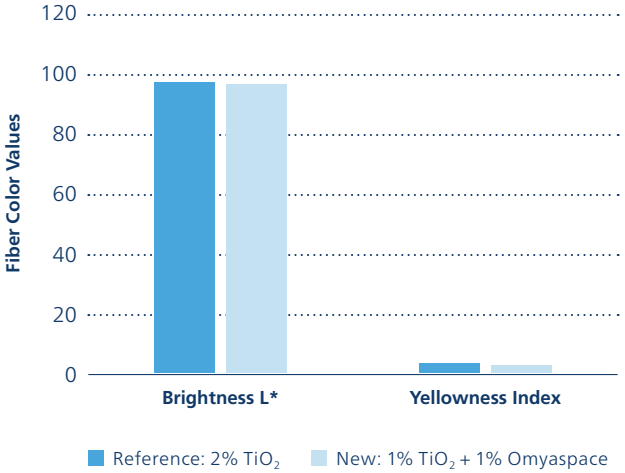
Omyaspace optimizes formulation cost of white masterbatch for film applications

In times of volatile prices for polymers and TiO_2, Omyaspace lowers and stabilizes the overall raw material and formulation cost. Add Omyaspace to the production process easily using conventional compounding methods. With the addition of approx. 12wt% Omyaspace significantly enhances the efficiency of TiO_2 and reduces the amount of petroleum-derived polymers.

Opacitiy of PE Film



Color in PET textile fibers



Omyaspace helps save energy and increases the production output and quality

TiO_2 concentrates and masterbatches containing Omyaspace benefit from better pigment dispersion, improved opacity yield, and a higher compounding output. Omyaspace also enhances the quality of dispersion measured in terms of FPV (Filter Pressure Value).

Omyaspace helps save precious raw materials and resources

Depending on the polymer and type of application, Omyaspace is added up to a level of 12%wt, allowing optimization of the masterbatch's TiO_2 and petroleum-derived polymer content. Thus, facilitating the reduction of the primary pigment while maintaining similar opacity, whiteness, and tint strength of plastic items.

At the same time, compounders and converters that replace part of their primary pigment in their formulas with Omyaspace can expect reduced wear on their machinery and metal components such as screws, barrels, plastic film/sheets, and cutting knives. As calcium carbonate is far less abrasive than TiO_2 and other oxide pigments, it extends the life of extruders, slitting machines, and all metal tooling involved in manufacturing plastic articles.

Omyaspace for sustainable hygiene and PET textile fibers

Omyaspace is engineered for PET hygiene and textile fiber spinning, where process stability is highly sensitive to particle fineness and purity. The grade's tightly controlled top-cut and minimal oversized particles ensure low filter pressure value and consistent throughput, enabling reliable processing down to 2 denier fibers. Strict limits on residues and contamination support the mechanical and aesthetic quality requirements of high-performance end fabrics.

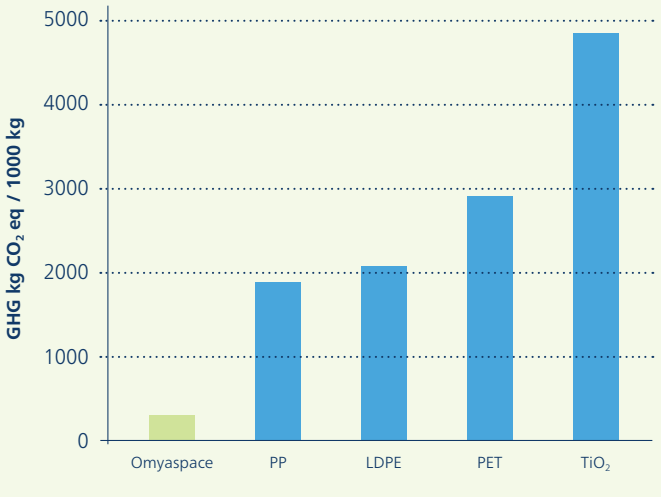
In dull PET formulations, TiO_2 is typically used to control gloss and enhance whiteness; however, incorporating 2wt% TiO_2 increases the GHG emissions relative to pure polyester. By achieving equivalent lustre through Omyaspace while partially substituting TiO_2, the formulation exhibits lower overall GHG emissions without compromising brightness or yellowness index.

Omyaspace reduces the carbon footprint of polymer packaging and every plastic end-product

Calcium carbonate is a naturally occurring mineral that requires no energy-consuming chemical reaction, giving it a much lower carbon footprint than polymer resins. Masterbatches containing Omyaspace, a natural ground calcium carbonate, help reduce CO_2 emissions and improve the environmental footprint of polymer applications.

Greenhouse Gas Emissions

Omyaspace have a carbon footprint of <300 kg CO_2 equivalent per metric ton and improves the carbon footprint of compounds when displacing polymer or glass fiber.



Omyaspace benefits

- Higher productivity
- Formulation cost optimization
- Higher pigment efficiency
- Better pigment dispersion
- Less abrasion
- Lower carbon footprint



Omyaspace is a registered trademark of Omya AG.

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