



» PRODUCT BULLETIN

ColorMatrix™ Optica™ PET Blue Toners & Colors For Enhanced Recyclability

ColorMatrix™ Optica™ patented liquid blue toners and colors are formulated for improved heat stability and are designed for addition to PET preforms or rPET to correct and reduce yellowing that occurs during the recycling process. This formulation also contains the PET process aid ColorMatrix™ SmartHeat™ RHC.

As well as color correction, this solution also improves the quality and performance of rPET and improves bottle mechanical strength, helping to reduce stoppages, blowouts and scrap while also reducing energy consumption during the bottle blowing process.

THE CHALLENGE

When PET is recycled it goes through multiple heat cycles, referred to as melt heat histories. This process can lead to a degradation of the PET over time and a shift in color, often manifested as increased color variability or yellowing, which is undesirable in food and beverage packaging. Toners can often contribute towards this yellowing if they are not heat stable.

THE INDUSTRY REQUIREMENT

Changing legislation, brand responsibility, and a desire to support the circular economy are all driving factors pushing the need for increased

packaging recycling. These factors result in an increased requirement for toners and specialized solutions that are designed to withstand the recycling process, and ensure optimum packaging is achieved in terms of color and quality.

THE SOLUTION

When added to PET preforms or rPET, ColorMatrix Optica blue toners and color formulations work to correct any yellowing or color variation, resulting in packaging that maintains a neutral or blue color with improved quality and performance. Since the formulation also has improved heat stability, it will not accelerate yellowing during the recycling process, and will also help reduce energy consumption and improve bottle mechanical strength by incorporating all the added benefits from the SmartHeat RHC technology.

Brand owners and packaging manufacturers who need to use increased levels of rPET content, in support of their sustainability goals and the circular economy, should benefit from this solution.

KEY BENEFITS

- Corrects yellowing and balances color variation in PET preforms, bottles and rPET
- Improves heat stability through the recycling process
- Improves the quality and performance of rPET
- Achieves improved mechanical strength in the bottle
- Improves productivity, reduced blowouts, downtime and scrap rates in bottle blowing and filling
- Reduces energy consumption
- Supports the circular economy

TARGET MARKET & APPLICATIONS

PET and rPET bottles

REGULATORY

- EU - ✓
- FDA - ✓
- China - 2022
- Mercosur - approved for use in Brazil with applicable use limitations

Detailed information regarding food contact clearances available on request.

COLORMATRIX ENHANCED RECYCLABILITY PORTFOLIO

	SmartHeat™ RHC	AAzure™	Optica™
APPLICATION	PET process aid	Acetaldehyde scavenger	Heat stable, enhanced recyclability toners and colors
FORMULATION	Liquid dispersion Stand alone	Liquid dispersion Triple A™ with SmartHeat RHC	Liquid dispersion Heat stable dyes and carrier system with SmartHeat RHC
USER	Convertors and rPET producers	Convertors (water)	Convertors and rPET producers
COLOR	Colorless	Slight blue tint or can be colored as required with the addition of Optica toners	A range of blue colors and toners, also custom color solutions. Greens coming soon!
RECYCLING APPLICATIONS	APR accredited	2021	2021

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