

Optica toners

Global PRT Red and Blue

Technology description

Optica toners are organic dyestuff powders and dispersions specifically engineered for use in PET production plants. The dyes are compatible with PET, have excellent thermal and acid stability and are typically used at 100 times lower levels than traditional inorganic toners.

Applications

All PET resins require some degree of toning to create a neutral colored PET acceptable for the most demanding applications. Optica toners are suitable for use in all PET processes and all PET grades without exception.

Optica toners will not block process filters, do not create black specks by combining with other raw materials and will facilitate exact color control under all process conditions.

Implementation

Optica toners are available as powders or as 15% by weight milled dispersions in mono ethylene glycol. Typically organic toners are added to the process in low ppm levels depending upon the degree of color toning required. It is recommended that the two-pack solution is used at all times, with the individual dispersions being fed into the PET process separately to ensure maximum flexibility for optimum color control. Consideration needs to be given to the desired concentration and suspension temperature as well as the configuration of feed vessel size/design and pipeline insulation.

Addition rate

Addition level is dependent upon the process technology, specifically the upper process temperature/residence time and the PET formulation. Typically however, less than 1ppm of each Global PRT Red and Blue are used to tone the green and yellow aspects of the resin back to a more acceptable neutral shade.



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Technical support

ColorMatrix can model the PET process toning package and advise the appropriate starting points for addition levels of Optica toners. Final use levels can only be reached via process optimization on a large scale plant. ColorMatrix can also provide information on Quality Control testing.

Hardware considerations are also critical as modifications to existing plant equipment may be necessary to obtain consistent toner dosing control.

Typical properties

| PRT Red | Unit | Data | PRT Blue | Unit | Data |
|---------------|-------|---------------|---------------|-------|---------------|
| Dyestuff type | - | Anthraquinone | Dyestuff type | - | Anthraquinone |
| Density | g/cm3 | 1.37 | Density | g/cm3 | 1.22 |
| Melting point | Deg C | 280 | Melting point | Deg C | 240 |

Performance

Optica toners facilitate independent and complete control of resin a* and b* color. They will typically provide an improved amorphous L* color compared to inorganic toners and also allow the production of cobalt-free PET.

Supply

Format / Packaging

Optica toners are typically available in a variety of packaging formats. Please consult with your local ColorMatrix representative.

Minimum order/Lead times

25kg with lead times of typically 2-3 weeks.

Regulatory (summary)

Optica is suitable for use under EU and FDA food contact legislation. Full regulatory details for your region are available on request.

For further information contact the ColorMatrix Global Regulatory Department on Tel: +44 (0)151 632 8800, Email: regulatory@colormatrix.co.uk

Important Notice

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Contact

For further information contact your regional ColorMatrix sales representative. For our global locations go to: www.colormatrix.com/en/global