



» PRODUCT BULLETIN

Colorants and Additives for Recycled Resins E&E Applications

The amount of recycled materials used in electrical and electronic products is increasing along with the diversity of polymer types being recycled. The coloration and processing of recycled polymers can be challenging due to the quality difference between batches of recycled materials and the potential loss of mechanical stability. Avient offers color concentrates (masterbatches) specially formulated to offer optimal dyeing of recycled polymers and additive concentrates to help with their processing and performance.

PERFORMANCE ADDITIVES

- **Cesa™ Nox A4R Additives for Enhanced Recycling** protect polymers against degradation by enhancing the autocatalytic cycle of radicals caused by O₂ and heat during the extrusion process and preventing hereby further degradation. The additives help stabilize the polymer and reduce the creation of new gels and black spots.
- **Cesa™ Unify™ A4R Polyolefin Compatibilizer** helps bring incompatible polymers like PP and PE together by forming them into a homogenous polymer mixture which increases the mechanical properties of the recycled polymer.
- **Cesa™ impact modifier for polystyrene** improves the impact strength of recycled polystyrene (rPS) with limited impact on the Young's modulus. It can be customized to fulfill specific properties and combined with color into a Smartbatch™ solution with exact color matching to the final article.
- **Cesa™ Flame Retardant Additives** enable a fire performance in line with different levels of Glow Wire temperatures (IEC 60685-2-12) for various recycled resins including PP, PC, and PS.



Sustainability Spotlight



Recycle
Solutions

 **AVIENT™**

COLOR SOLUTIONS

- **OnColor™ Polymer Colorants** customized to customer's requirements are color matched taking into consideration the recycled resin grade specificities and application requirements.
- Our **PCR Color Prediction Service** helps frame the available color space based on the PCR characteristics including opacity and undertone for recycled polyolefins, PET, and styrenics.
- **SmartBatch™ Combination Colorants & Additives** based on Maxxam™ REC Recycled Polyolefin Formulations which include 25–100% recycled polyolefin resin from post-industrial recycled (PIR) and/or post-consumer recycled (PCR) sources.

MECHANICAL RECYCLING TESTING FACILITY

Our **CycleWorks™ Innovation Center** in Italy provides the necessary research environment to test and evaluate plastic recycling in real-world conditions. This can help to develop recycling-friendly polymer solutions to increase the recyclability of plastic products.



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