



» PRODUCT BULLETIN

Cesa™ Fiber Additives

Chain Extenders for Recycled PET Fibers

In an effort to contribute to the circular economy, the use of recycled content in textile products is growing. Polyester is a favored polymer to recycle and reprocess in different industries and this is also the case for the fiber industry. However, the high temperatures involved in the reprocessing of post-consumer recycled polyester flakes can cause damage at a molecular level and make the processing unstable. In addition, the recycled polyester needs to be suitable for spinning.

The Cesa™ Fiber Additives portfolio includes chain extenders specially formulated to help recouple depolymerized polymer chains and support a more stable processing of recycled flakes into fibers. They are added during polymer processing in the spin-dyeing process, thus eliminating the need for additional extrusion or polycondensation steps.

APPLICATIONS

Avient's chain extenders for fibers can be used to boost the processing of recycled polyester for a variety of textile products, including:

- Clothing and sportswear
- Bags and backpacks
- Home textiles and upholstery
- Automotive textiles and insulation/heat management systems
- Carpets and rugs

WORKING PRINCIPLE

As opposed to standard chain extenders, which usually branch the PET molecules, Avient's chain extenders for recycled PET fibers extend the molecules in a linear way, which is more adapted to the reprocessing into fibers. Even a slight improvement of the intrinsic viscosity (IV)/molecular weight supports a smoother and more stable processing of the recycled polyester.

KEY BENEFITS

- High-temperature stability and very good processability
- Excellent compatibility with the application resin
- Increase of intrinsic viscosity/molecular weight
- Suitable for standard machinery used by customers
- Good cost-performance ratio
- Can be combined with color into a single combination concentrate for convenience
- Product guidance and technical assistance from our experts

Sustainability Spotlight



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