



Converting CleanFlake™ Adhesive Technology

Background

Standard pressure-sensitive labels limit PET recyclability into food-grade rPET due to adhesive and ink contamination. Avery Dennison has developed SR3010, a water-based adhesive which separates cleanly from the substrate in the caustic bath stage at the recycler. This enables the label and adhesive to cleanly separate from the PET flake resulting in pure recycled PET flakes, the conservation of virgin PET resources and less landfill waste.

APR Compliance

It is often a delicate balance to conform to APR guidelines while maintaining critical ink, coating, design and selection requirements. Avery Dennison CleanFlake adhesive technology passes the APR benchmark criteria as verified by third-party testing.

- > It is recommended to test ink systems for suitability with the APR guidelines without negatively impacting the converting and finished label quality
- > UV based inks provide the best chance of meeting the APR requirements*

*This comprehensive recycling evaluation serves as a performance assessment for labels in the plastic recycling process. Label stock that passes the APR Benchmark Test is a foundation for container decoration that provides the best possible performance in the plastic recycling processes. Avery Dennison CleanFlake passes the APR Benchmark criteria as verified by third-party testing.

The complete APR Design™ Guide for Plastics Recyclability can be found at www.plasticrecycling.org

- > In addition to the choice of substrate, ink systems should be tested for suitability with Design Guidelines, without negatively impacting conversion or finished label quality. To ensure clean separation between the label and the PET flake, the final (print+label+adhesive) layer must have a total density of less than 1.0 g/cm³ at ambient temperatures.
- > Because PET bottles and containers can vary with respect to ease of recyclability, specific application testing to assure performance is highly recommended.

Overlaminating Films

Overlaminating films are typically needed to protect the ink during the recycling process. Water based ink systems are prone to staining of the PET flake, even when used with an overlaminating film.

Varnishes

A varnish may be used in place of an overlaminating film, but only after thorough testing to confirm the inks cannot be separated from the base label during the recycling process and that the ink will not stain the PET flake.



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Processing Tips for Label Application

Converting:

Make sure die cut quality is adequate - a faint impression of each die cavity should be observed on the liner (off press check).

Application / Co-packer:

Appropriate Air Knife System should be situated as close to the label applicator as possible, to remove any over-spill and condensation from the body and shoulders of the container, with the desired goal being a dry bottle prior to labeling.

- > Label applicators should be clean and free of any residue, a scheduled PM should be set up to drive production efficiencies.
- > Appropriate peel tip radius is used, ie. film V paper
- > Peel tip angle on the applicator should be set between 12° – 25° angle to the container.
- > Ensure adequate wipe down on label to release any entrapped air/moisture during label application.
- > Product can be dispensed at 200+ bottles per minute.

For more information about how to deliver improved sustainability with outstanding shelf impact, go to

label.averydennison.com/cleanflake

All comparisons are believed to be reliable and accurate. However, the furnishing of such information and comparisons is for reference purposes only and does not constitute a warranty of any kind. Actual product performance should always be tested for fitness-for-use.

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