SELECTING SHRINK SLEEVE LABELS FOR PET PACKAGING - AN APR DESIGN™ GUIDE BULLETIN

THE ISSUE - FULL SHRINK SLEEVE LABELS CAN INTERFERE WITH PET BOTTLE RECYCLING.

Shrink sleeve labels can interfere with sortation equipment used in recycling and can contaminate recycled PET plastics. It is important to specify shrink sleeve label materials and designs that will not interfere with the recycling process.

Sleeve labels are often highly printed and designed to cover the entire PET bottle from the neck ring down to the base. These labels have traditionally been made from film that does not float in water. The result in recycling is:

- In many cases, auto-color sorters see the bottles as colored and reject them from the high value clear recycle stream.
- In other cases, label material is ground into flake with the bottles and the label does not separate from PET in the float-sink step.
- Printing inks can contaminate wash water and stain PET flake.
- Full sleeve labels are relatively heavy and have an undesirable impact on bale yields and amount of material sent to landfill.
- PVC labels are especially undesirable because of the poor thermal stability of PVC when mixed with PET.

Traditional labels can have a negative impact on 6 out of 7 key recycling steps!

THE SOLUTION – EMPLOY SLEEVE LABEL MATERIALS THAT MEET APR TEST CRITERIA AND HAVE LEAST IMPACT ON THE RECYCLING PROCESS. MINIMIZE LABEL AREA TO ALLOW BEST SORTING ACCURACY AND MINIMIZE LANDFILL WASTE.

There are commercially available label materials and label designs that over-come recycling problems.

- The APR Critical Guidance Test for Sleeve Labels on PET Bottles confirms that the label stock will float in water and that the label does not interfere with the color or haze of recycled PET.
- The APR Bleeding Label Test confirms that ink from labels will not stain the PET in the caustic wash tank.
- Most accurate auto-sortation of sleeve labeled bottles for polymer type and color occurs when the label itself, or the printed area of the label, covers no more than 75% of the bottle surface.
  - Smaller label area, thin gage film, and lighter olefin based labels improve bale yield and reduces the amount of label waste going to land fill.

Properly selected labels will not interfere with recycling!
A number of APR member companies can speak with you about sleeve labels for PET packaging that do not interfere with recycling. These members, along with contact information, are profiled on the APR web site [http://plasticsrecycling.org/membership](http://plasticsrecycling.org/membership) and include:

Labels and Label Materials  
Avery Dennison, Jindal Films, Polysack, Printpak, Sleever, and UPM Raflatac

PET Bottle Design and Supply  
Amcor and Berry Plastics

Laboratory and Consulting Services  
Plastics Forming Enterprises and Plastic Technologies Inc.

**ILLUSTRATION OF GOOD PRACTICES**

The illustration shows a sleeve label with partial coverage of the bottle. This bottle will pass auto-sortation equipment as a clear, colorless PET bottle. There are commercially available labels made from an olefin stock where the label will float in water. Label and ink systems that meet criteria of APR Critical Guidance and the Bleeding Ink Test are also commercially available.

**ILLUSTRATIONS OF UNFAVORABLE PRACTICES**

Labels made from materials that sink in water such as PETG, polystyrene or PVC are to be avoided. The photo shows that these labels sink in water along with PET flake; the label and ink can contaminate the PET.

Labels with poor ink adhesion are to be avoided. The photo shows the ingredients area of a label that has been exposed to hot caustic wash water used for PET recycling. The ink has begun to come off of this label and will contaminate the PET.

The Association of Postconsumer Plastic Recyclers (APR), represents over 90% of the postconsumer plastic recycling capacity in North America. APR member companies include plastics recyclers, brand owners and supply chain stakeholders who support a strong market for postconsumer plastics. The APR Design™ Guide for Plastics Recycling outlines package design criteria that enhance the ability to recycle and minimize contamination in postconsumer plastics.