

APR Design® Guide Resource Document

Selection of Labels for PET Containers

Introduction

There are a variety of label styles and materials that are commonly used with PET packaging. The label selected may impact the compatibility of the package with today's recycling processes. The label will also impact the amount of waste generated when a package is recycled.

The APR Design Guidance Label Summary Table in this document compares the various labels. Detailed information is also provided impacting the selection of:

- Film pressure sensitive labels.
- Paper pressure sensitive labels.
- Shrink sleeve labels.

Some label information & background

When selecting a label for compatibility with PET recycling, considerations include:

- Any impact of the label on automated NIR sortation that identifies PET bottles at a MRF.
- Can the label be "liberated" from the bottle and "separated" cleanly from the PET?
- If not separated, is the label compatible with PET?
- Does the label impact wash water used for recycling?
- How much waste and bale yield loss does the label create?
- Does the label contaminate the closure side stream?
- Can a metalized label be lost at a metal detector?

- Will high surface area coverage labels be missorted as colored bottles?

The APR Design Guidance Label Summary Table compares labels with the following rankings:

✓ = Industry experience is that criteria is usually satisfied

- = Industry experience is that label generally cannot satisfy this criterion

n/a = rating is not applicable to a given label type

T = Testing is strongly recommended to confirm that label provides this criterion

When testing is recommended, label suppliers can be called on to supply label substrates and printed labels that have already been tested according to APR Test Methods.

APR DESIGN GUIDANCE LABEL SUMMARY TABLE

FOR PET ARTICLES		LABEL TYPE																	
PROCESS CATEGORIES	NOTES: <ul style="list-style-type: none"> All labels addressed include label stock, adhesive and ink. PVC shrink sleeve labels are used for PET containers, but are not recommended for any applications where recycling is anticipated This table is for quick reference only and is not to be used as a substitute for APR critical guidance testing <p>✓ = Industry experience is that criteria is usually satisfied</p> <p>T = Testing is strongly recommended to confirm that label provides this criteria</p> <p>- = Industry experience is that label generally can not satisfy this criteria</p>	WRAP AROUND WITH HOT MELT ADHESIVE			PRESSURE SENSITIVE		SHRINK SLEEVE LABELS WITH < 75% COVERAGE OF SIDEWALL					SHRINK SLEEVE LABELS WITH > 75% COVERAGE OF SIDEWALL			ADDITIONAL LABEL STYLES				
		PP REVERSE PRINT & LAMINATED	PAPER	PP MONOWEB	PAPER	POLYOLEFIN	PETG	PETG W DESEAMING	POLYOLEFIN	LAMINATED PET + POLYOLEFIN	CRYSTALLIZABLE PET COPOLYMER	PETG	PETG W DESEAMING	POLYOLEFIN	LAMINATED PET + POLYOLEFIN	CRYSTALLIZABLE PET COPOLYMER	ROLL ON SHRINK ON (LAMINATED PP)	WET GLUE ON PAPER	STRETCH LABEL (POLYOLEFIN)
PROCESS CATEGORIES	OPTICAL SORT OF WHOLE BOTTLES	LABEL ALLOWS BOTTLE RESIN IDENTIFICATION BY NIR SORTER	✓	✓	✓	✓	✓	✓	✓	✓	✓	T	T	T	T	✓	✓	✓	✓
		LABEL ALLOWS IDENTIFICATION OF CLEAR BOTTLE BENEATH LABEL	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	✓	✓	✓	✓
	OPTIMUM RECLAIMER FRONT END PERFORMANCE	WHOLE BOTTLE WASH PROCESSES	✓	✓	✓	-	-	-	✓	-	-	✓	-	-	-	✓	✓	-	T
		DELABELLER PROCESSES	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	-
		DRY PROCESSES	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	T
	OPTIMUM RECLAIMER FLAKE WASHING PERFORMANCE	LABEL REMOVED IN THE GRANULATION AND FLAKE WASHING PROCESS	✓	✓	✓	T	T	-	-	✓	✓	n/a	-	-	✓	✓	n/a	✓	✓
		LOWER LABEL WEIGHT MINIMIZES BALE YIELD LOSS	✓	✓	✓	✓	✓	-	-	-	-	-	-	-	-	✓	✓	✓	✓
		INK DOES NOT STAIN FLAKE	✓	T	T	T	T	T	T	T	T	T	T	T	T	✓	T	T	T
		INK DOESN'T CONTAMINATE WASH WATER	✓	-	T	-	T	T	T	T	T	T	T	T	T	✓	-	T	-
		LOW RISK THAT LABEL CAN CONTAMINATE PET FLAKE	✓	-	✓	-	✓	-	-	✓	✓	-	-	✓	✓	✓	-	✓	T
		LABEL DOES NOT CONTAMINATE SELLABLE CLOSURE SIDE STREAM	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓