**DO NOT USE**
- Opaque or non clear, transparent, light blue or green PET
- Windows
- PETG bottles
- PVC components
- Degradable additives
- Foamed PET
- PET film/bags

**TEST**
- Small items
- Dark colors
- Flat items
- Large labels
- Metal attachments

**USE APR APPROVED**
- Pressure sensitive labels
- Barrier layers
- Shrink sleeve labels
- EPET, not PETG
### Five for Focus: *Most common issues affecting PET quality/yield*

<table>
<thead>
<tr>
<th>Focus Area / Issues Summary</th>
<th>Suggested Action Steps per The APR Design® Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PETG shrink sleeve Labels</strong></td>
<td>Specify APR-recognized label materials, including commercially-available shrink sleeve label technologies. See attached APR Design® Guide Supply Resources sheet.</td>
</tr>
<tr>
<td>• Reduce quality of RPET</td>
<td></td>
</tr>
<tr>
<td>• Increase yield loss</td>
<td></td>
</tr>
<tr>
<td>• Bottle coverage can impede PET sortation (all sleeve labels)</td>
<td></td>
</tr>
<tr>
<td><strong>Pressure Sensitive Labels</strong></td>
<td>Specify commercially-available, APR-recognized pressure sensitive labels, developed to readily wash off a PET container during recycling, and that use inks designed to adhere to the label and not be removed by the recycling wash process. See attached APR Design® Guide Supply Resources sheet.</td>
</tr>
<tr>
<td>• Full-coverage adhesive can be difficult to remove from recycled PET</td>
<td></td>
</tr>
<tr>
<td>• Inks and adhesives can be source of discoloration for PET</td>
<td></td>
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<tr>
<td><strong>Barrier containers</strong> that employ multi-layers or oxygen scavenger additives for higher CO2 or O2 barrier.</td>
<td>Consider innovative barrier technologies that have received APR Recognition, and encourage your suppliers to innovate in this barrier container design area. See attached APR Design® Guide Supply Resources sheet.</td>
</tr>
<tr>
<td>• Barrier additives and non-PET layers are a source of discoloration and defects in products made from recycled PET.</td>
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</tr>
<tr>
<td><strong>Attached Metals (closures, lidding, dispensers or foils)</strong></td>
<td>Use polypropylene or polyethylene for PET closures and dispensers. <a href="https://plasticsrecycling.org/pet-design-guide">https://plasticsrecycling.org/pet-design-guide</a>, “Closures and Dispensers”</td>
</tr>
<tr>
<td>• Create wear in process machinery</td>
<td></td>
</tr>
<tr>
<td>• Increase operation costs and yield loss</td>
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</tr>
<tr>
<td>• Are a primary source of defects in products made with recycled PET</td>
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</tr>
<tr>
<td>• If removed by metal detectors the PET container will not be recycled</td>
<td></td>
</tr>
<tr>
<td><strong>Extrusion blow-molded PETG containers</strong></td>
<td>Specify commercially-available, APR-recognized PET resin for extrusion blow molded containers. See attached APR Design® Guide Supply Resources sheet.</td>
</tr>
<tr>
<td>• PETG is a copolymer that is not compatible with commonly used container grade PET</td>
<td></td>
</tr>
</tbody>
</table>
• PETG reduces quality and increases defects in RPET

APR Design® Guide Supply Resources

The companies listed below are APR member companies and/or companies that have engaged in the APR Critical Guidance Recognition Program to demonstrate a product that is compatible with PET recycling. The contact information given below is current as of the publication date of this document: February 2019. Additional information for those APR member companies may be found in the APR Member Directory: https://plasticsrecycling.org/membership/members-profiles

SLEEVE LABEL RESOURCES
Shrink sleeve film label converters – These companies supply finished printed labels that have employed APR’s Critical Guidance Protocol for Clear PET Articles with Labels and Closures, https://plasticsrecycling.org/images/pdf/design-guide/test-methods/PET_Critical_Guidance_Labels_Closures_PET-CG-02.pdf, to demonstrate that their printed labels are compatible with PET recycling, or can supply labels using APR Recognized unprinted labels:

- American Fuji Seal  Scott Giffels  sgriffels@afseal.com  502-203-4678
- Brook & Whittle  Andy Sharp  asharp@bwhittle.com  716-830-9402
- Multi-Color Corp  Matthew Thomas  Matthew.Thomas@mclabel.com  402-973-8018

Suppliers of unprinted shrink sleeve substrate films that offer APR Recognized labels – These unprinted labels have employed APR’s Critical Guidance Protocol for Clear PET Articles with Labels and Closures to demonstrate that they compatible with PET recycling:

- Eastman Chemical  Carl Williams  jcarlw@eastman.com  423-229-6821
- Klöckner Pentaplast  Juliana Farah  j.farah@kpfilms.com  540-406-1238
- Polysack  sales@polysack.com
- SKC Inc.  Eugene Jung  ejung@skcfilms.com  678-342-1137
- Taghleef Industries  Duncan Henshall  duncan.henshall@ti-films.com  843-862 2032
- UPM Raflatac  Kyle Strenski  kyle.strenski@upmraflatac.com  513-313-4782

PRESSURE SENSITIVE LABEL RESOURCES
Pressure sensitive film label converters – These companies supply finished printed labels that have employed APR’s Critical Guidance Protocol for Clear PET Articles with Labels and Closures to demonstrate that they are compatible with PET recycling, or can supply labels using APR Recognized unprinted labels:

- Brook & Whittle  Andy Sharp  asharp@bwhittle.com  716-830-9402
- CCL  Alexandra Joesten  ajoesten@cclind.com  609-443 3700
- Kennedy Group  Chris Rini  crini@kennedygrp.com  216-906-6633

plasticsrecycling.org
Multi-Color Corp  Matthew Thomas  Matthew.Thomas@mcclabel.com  402-973-8018

**Suppliers of unprinted pressure sensitive substrate films that offer APR Recognized labels** – These un-printed labels have employed APR’s *Critical Guidance Protocol for Clear PET Articles with Labels and Closures* to demonstrate that they are compatible with PET recycling:

- **Avery Dennison**  Tim Bohlke  timothy.bohlke@averydennison.com  440-520-8527
- **UPM Raflatac**  Kyle Strenski  kyle.strenski@upmraflatac.com  513-313-4782

**BARRIER LAYERS, COATINGS & ADDITIVES**

**Barrier layers for product protection** – These suppliers have utilized APR’s *Critical Guidance Protocol for Clear PET Resin and Molded Articles* to demonstrate that their barrier technologies provide a PET recycling compatible alternative.

- **ColorMatrix (PolyOne Corp.)**  Alan Barcon  Alan.Barcon@PolyOne.com  216-367-0565
- **KHS USA**  Jon Elward  Jon.Elward@khs.com  262-865-0435

**PET RESIN**

**PET resin for extrusion blow molded containers** – The PET resin manufacturers below have employed APR’s *Critical Guidance Protocol for Clear PET Resins and Molded Articles* to demonstrate PET recycling compatibility.

- **Auriga Polymers (Indorama Ventures)**  Frank Embs  Frank.Embs@us.indorama.net  980-233-8235
- **DAK Americas**  Kevin Harrison  kharrison@AlpekPolyester.com  704-940-4990
- **Eastman Chemical**  Carl Williams  jcarlw@eastman.com  423-229-6821

**TESTING**

**Independent consultant companies that can conduct testing** – The independent consultants and laboratories listed below are experts in PET recycling and testing. They can help evaluate new innovations.

- **Plastic Forming Enterprises**  Kristi Hansen  khansen@plasticsforming.com  603-668-7551
- **Plastic Technologies Inc**  Wei Zhang  wzhang@pti-usa.com  419-867-5402
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