

# Design For Recycling

## GUIDELINES for packaging

\* A removable label is a label resulting in a removal efficiency equal or higher than 90% by grinding and washing the packaging. RecyClass is developing a standard testing procedure to prove label removability

The DfR guidelines for plastic packaging are 100% aligned with...  
For more info, please visit <https://recyclclass.eu/>

RecyClass

CIRCPACK  
by VEOLIA

### Material:

- PET bottle
- PET thermoform
- PP rigid
- PP flexible
- PE rigid
- PE flexible

### PS

#### Coloured

- Paper & cardboard
- Beverage carton
- Glass
- Steel
- Aluminium



|             |                          | Yes - Full compatibility  | Conditional - Limited compatibility  | No - Low (or no) compatibility   |
|-------------|--------------------------|---|--|--|
| Main body   | Material                 | PS  |  | PS foamed < 1 g/cm <sup>3</sup> ; multilayers (PET, PETG, PVC, PLA, HDPE, PP...)   |
|             | Colours                  | Light colours   | Dark colours (NIR detectable)  | Non NIR-detectable colours   |
|             | Size                     |   | Items compacted ≤ 5 cm   | Items (compactd) ≤ 2 cm  |
|             | Product residues         | A if the index Easy-to-empty is < 5%; B if the index is < 10%   | C if the index Easy-to-empty is < 15%  | D if index <20%; E < if index 25%; F if index > 25%  |
|             | Barrier                  | <a href="#">EVOH ≤ 5.0 wt% + PE-g-MAH tie layers and EVOH:Tie layers ratio ≤ 1</a>  | <a href="#">EVOH &gt; 5.0 wt% + PE-g-MAH tie layers and EVOH:Tie layers ratio ≤ 1</a>  | PA; PVdC   |
|             | Additives                | Additives that are unavoidable in processing (stabilizers, antioxidants, lubricants...) and in formulation (SBS copolymer) with density that remains between 1 and 1.07 g/cm <sup>3</sup> | Mineral fillers (CaCO <sub>3</sub> , talc) not increasing density > 1.07 g/cm <sup>3</sup>                                       | Additives increasing density > 1.07 g/cm <sup>3</sup> ; Bio/oxo/photodegradable additives  |
| Attachments | Closure Systems          | PS  | Removable PP and/or PE   | PET; PETG; PVC; PLA; Paper; Any material with d >1 g/cm <sup>3</sup> ; Non detaching or welded closures; Aluminium; metal  |
|             | Liners, Seals and Valves | PS  | PP; PE; EVA; TPE (non welded and with density <1 g/cm <sup>3</sup> )   | PET; PETG; PVC; PLA; Any material with d >1 g/cm <sup>3</sup> ; Metal; metal foil; silicone  |
|             | Lids                     | PS  | <a href="#">Removable aluminium lidding</a> ;<br><a href="#">Removable PP and/or PE; Paper without fiberloss</a>                 | PVC; Non removable alu lidding; Paper; PET. Multilayer PET/paper or PET/PS; Any material with density >1 g/cm <sup>3</sup>   |
|             | Other Components         | PS  | Removable PP and/or PE; paper without fiberloss  | PET, PETG, PVC, PLA, metal, metal foil, paper; Any other material with density >1 g/cm <sup>3</sup>  |
| Decoration  | Inks                     | Non-bleeding inks compliant with EuPIA Exclusion Policy. Direct printing for production or expiry dat   | More than 1 wt% direct printing (to be tested)   | Bleeding inks; Inks non compliant with EuPIA Exclusion Policy; PVC co-and terpolymer binders; any other chlorinated binders  |
|             | Facestock Label Material | Labels in PS  | Labels in PP, PE (with density < 1 g/cm <sup>3</sup> ); Label in paper without fiberloss   | Labels that hinder the recognition of the PS; PET; PETG; PVC; PLA; Paper with fiberloss; In-Mould-Labels; Metallised materials; Aluminium  |
|             | Adhesives for labels*    | <a href="#">Removable labels in the recycling process</a>   |  | Non-removable in the recycling process   |
|             | Sleeves                  | Sleeves in PS; <a href="#">Self-separable plastic and cardboard sleeves under mechanical pressure</a> ( <a href="#">sorting test</a> mandatory)   | Sleeves in PE, PO (with density <1 g/cm <sup>3</sup> ) not hampering the NIR detection ( <a href="#">sorting test</a> mandatory) | Sleeves that hinder PS recognition; Sleeves in non PO materials with d <1 g/cm <sup>3</sup> ; PET, PETG, PVC, PLA; Cardboard sleeves; Metallised materials; Heavily inked sleeves; Alu |
|             | Direct Printing          | Laser marking for production or expiry date;  |  |  |