Design For Recycling

GUIDELINES for packaging

* Polymer resin can be either fossil- or bio-based, virgin or recycled. EPS commercial packaging should refer to other existing DfR Guidelines (i.e. EPS white goods and EPS fish boxes). XPS and EPS household packaging are not recycled into the PS stream. To recycle them, it is necessary to develop a separate stream.
** Decorative technologies must not hinder the recognition of the underlaying PE-polymer. Features as size, print, mass colouration and/or barrier might require to perform a Sorting Evaluation Protocol. The following size indications can be considered to ensure the recognition of PE:
– Size of non-PE detectable surfaces on containers > 500 ml: < 70% coverage
– Size of non-PE detectable surfaces on containers < 500 ml: < 50% coverage

CIRCPACK by VEOLIA

Material:

- PET bottle
- PET thermoform
- PP rigid
- PP flexible
- PE rigid
- PE flexible
- **PS** Natural&white
- 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/cm³; multilayers (PET, PETG, PVC, PLA, HDPE, PP…)
	Colours	Natural; white		Any other colour
	Size		Items compacted ≤ 5 cm	Items (compacted) ≤ 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	EVOH ≤ 5.0 wt% + PE-g-MAH tie layers and EVOH:Tie layers ratio ≤ 1	EVOH > 5.0 wt% + PE-g-MAH tie layers and EVOH:Tie layers ratio ≤ 1	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/cm³	Mineral fillers (CaCO3, talc) not increasing density > 1.07 g/cm³	Additives increasing density > 1.07 g/cm³; Bio/oxo/photodegradable additives
Attachments	Colours	Natural; White	Light colours	Black Inner layer, Black, Carbon Black, Other dark colours
	Closure Systems	PS	Removable PP and/or PE	PET; PETG; PVC; PLA; Paper; Any material with d >1 g/cm³; Non detaching or welded closures; Aluminium; metal
	Liners, Seals and Valves	PS	PP; PE; EVA; TPE (non welded and with density <1 g/cm³)	PET; PETG; PVC; PLA; Any material with d >1 g/cm³; Metal; metal foil; silicone
	Lids	PS	Removable aluminium lidding; Removable PP and/or PE; Removable PET	PVC; Non removable alu lidding; Paper; non-removable PET. Multilayer PET/paper or PET/PS; Any material with density >1 g/cm³
	Other Components	PS	Removable PP and/or PE	PET, PETG, PVC, PLA, metal, metal foil, paper; Any other material with density >1 g/cm³
Decoration**	Inks	Non-bleeding inks compliant with EuPIA Exclusion Policy. Direct printing for production or expiry date		Inks that bleed; Inks non-compliant with EuPIA Exclusion Policy; PVC binders; Any other chlorinated binder; Any other direct printing
	Facestock Label Material	Removable labels in PS	PE, PO (with density <1 g/cm³) not hampering the NIR detection (sorting test mandatory)	Non removable or partially removable labels; Labels that hinder the recognition of the PS; PET, PETG, PVC, PLA; Paper label; In-Mould-Labels; Metallised materials; Aluminium
	Adhesives for labels*	**Releasable labels in the recycling process**		Not-releasable in the recycling process
	Sleeves	Sleeves in PS; Self-separable plastic and cardboard sleeves under mechanical pressure (sorting test mandatory)	PE, PO (with density <1 g/cm³) not hampering the NIR detection (sorting test mandatory)	Sleeves that hinder PS recognition; Sleeves in non PO materials with density <1 g/cm³; PET, PETG, PVC, PLA; Cardboard sleeves; Metallised materials; Heavily inked sleeves; Aluminium
	Other Decorative Techs	Laser marked; Production or expiry date		