

Design For Recycling

GUIDELINES for packaging

- ¹ Polymer resin can be either fossil- or bio-based, virgin or recycled.
² Recyclability tests will be performed in 2025 to clarify the impact of black inner layers of multilayers on the colour of the recycle
³ Decorative technologies must not hinder the recognition of the underlying PET-polymer, such as size, print, mass colouration and/or barrier. The following size indications can be considered to ensure the recognition of PET:
- Size of non-PET surfaces on containers > 500 ml: < 70% coverage
- Size of non-PET surfaces on containers < 500 ml: < 50% coverage

The DfR guidelines for plastic packaging are 100% aligned with....

For more info, please visit <https://recyclclass.eu/>

RecyClass

CIRCPACK
by  VEOLIA

Material:

PET bottles

- PET thermoform
- PP rigids
- PP flexibles
- PE rigids
- PE flexibles
- PS
- Paper & cardboard
- Beverage cartons
- Glass
- Steel
- Aluminium



		**for food contact packaging		
		Yes - Full compatibility		No - Low (or no) compatibility
Main body	Material ¹	PET		PLA; PVC; PS; PETG; PC; PBT
	Colours	Monolayer PET bottles; External side of the bottle with L* > 85	Multilayer PET bottles (2 and 3-layers) ² ; External side of the bottle with L* > 80	External side of the bottle with L* < 80; Other opaque colours; Fluorescence; Metallic
	Size			< 4 cm (compacted); > 5 liter content
	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%	Index is ≥15%
	Barrier	SiOx plasma coating	Carbon plasma-coating; PA-MXD6 multilayer with <5wt% PA-MXD6 and no tie layers; PGA multilayer; PTN alloy	PA-MXD6 multilayer with >5wt% PA-MXD6 or with tie layers; Monolayer PA-MXD6 blend; EVOH
	Additives	TiO2 content < 8 wt%; PET masterbatch carrier	TiO2 content between 8 and 9 wt%; UV stabilizers; Acetaldehyde (AA) blockers; Optical brighteners; Oxygen scavengers	TiO2 content > 9 wt%; Other fillers; Non-PET masterbatch carrier; Bio-/oxo-/photodegradable additives; Nanocomposites
Attachments	Closure Systems	PE (with density <1 g/cm ³); PP (with density <1 g/cm ³)		Materials and blends with density >1 g/cm ³ (e.g. highly filled PE, metals,...); Non-detaching or welded closures
	Liners, Seals, Valves	PE; PE + EVA; PP; TPO (all with a density < 1 g/cm ³); TPS (with density < 0.95 g/cm ³)	Foamed PET (all with a density < 0.95 g/cm ³); Floatable silicone (with density < 0.95 g/cm ³)	Materials with density >1 g/cm ³ (e.g. PVC, silicone, metals)
	Other Components	Base cup, handles or other components which are separated by grinding and float/sink - density <1 g/cm ³		Materials with density >1 g/cm ³ (e.g. metal, RFID tags); Non detaching or welded components; Coloured PET
Decoration*	Facestock for Label Materials ³	PE; PP; OPP (all with density <1 g/cm ³)	EPS; foamed PET; Lightly metallized labels (all with density <0.95 g/cm ³); Paper labels without fiberlosses	Labels which hinder the recognition of the underlying PET-polymer (e.g. too large, metallised, heavily inked); Labels with density >1 g/cm ³ (e.g. PVC; PS; PET; PETG; PLA); Metallized labels; Non-detaching or welded labels; Paper labels with fibreloss; Foamed PETG labels (even with density <1 g/cm ³); PET labels with washable inks
	Adhesives for labels	Alkali/water releasable adhesive at 70-90°C		Alkali/water soluble adhesive; Alkali/water non-soluble or non-releasable adhesive at 70-90°C
	Sleeves ³	PE; PP; OPP sleeves not hampering NIR and colour sorting (all with density <1 g/cm ³)	PE; PP; OPP sleeves not hampering NIR and colour sorting (all with density <1 g/cm ³); EPS; foamed PET; LDPET (all with density <0.95 g/cm ³)	Sleeves which hinder the recognition of the underlying PET-polymer; with density >1 g/cm ³ (PVC; PS; PET; PETG); Foamed PETG sleeves; PET sleeves with washable inks
	Tamper Evidence Wrap	PE; PP; OPP (all with density <1 g/cm ³)	EPS; Foamed PET; LDPET (all with density <0.95 g/cm ³)	Bleeding inks; Inks non-compliant with EuPIA Exclusion Policy; Metallic inks; Washable inks; Any other direct printing
	Inks	Retentive inks compliant with EuPIA Exclusion Policy; Inks applied on removable labels/sleeves not hampering the sorting into a white opaque PET stream	Production or expiry date (direct printing)	Bleeding inks; Inks non-compliant with EuPIA Exclusion Policy; Metallic inks; Washable inks; Any other direct printing
	Other Decorative Technologies	Laser marked print or expiry date		Any other laser marking