

Design For Recycling

GUIDELINES for packaging

* Polymer resin can be fossil or bio-based, virgin or recycled
 ** Nitrocellulose (NC) based inks impact on recyclability is under investigation by RecyClass.
 *** Temporary Solution

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

RecyClass

CIRCPACK
 by VEOLIA

Material:

- PET bottle
- PET thermoform
- PP rigid

PP flexible

- PE rigid Transparent
- PE flexible
- PS
- Paper & cardboard
- Beverage carton
- Glass
- Steel
- Aluminium



		Yes - Full compatibility	Conditional - Limited compatibility	No - Low (or no) compatibility
Main body	Material*	Oriented and non-oriented PP (including PP-plastomers)	Multilayer PP/PE with PE ≤ 10%	Any other polymer (ex. PET, PVC, etc.)
	Colours	Unpigmented; transparent	Light colours; translucent colours	Dark colours; black; carbon black
	Size	Packaging surface > 100 cm²	Packaging surface between 30 and 100 cm²	Packaging surface < 30cm²
	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	SiOx and AlOx without additional coatings	≤ 5% EVOH (in polyolefinic combination film);	> 5% EVOH (in polyolefinic combination film); Barrier layer PVC, PVDC, PA; AlOx coating with PVOH primer ; any other barrier layer; metallisation ; aluminium
	Additives	Additives that do not increase the density higher than 0,97 g/cm³		PBT Voiding Agent; Bio-/oxo-/photodegradable additives; foaming agents used as expandant chemical agents; Additives not increasing density >0,97 g/cm³ (CaCO3, talc, glass fibers).
	Laminating adhesives	Aliphatic polyurethanes ≤ 2.3 % ; Laminating adhesives approved as fully compatible by RecyClass ; To be tested if in combination with a barrier material	Aliphatic polyurethanes between 2.3% and 4.5% ; Water Based Acrylics ≤2.5%; Laminating adhesives approved as limited compatible by RecyClass ; To be tested if in combination with a barrier material other than EVOH	Aliphatic polyurethanes > 4.5% ; Water-based acrylics >2.5%; Aromatic polyurethanes (to be tested); Laminating adhesives specially developed for high thermal applications above boiling and/or for high chemical resistance (to be tested); Any other laminating adhesives
Attachments	Closure Systems	PP (including PP-plastomers)	PE	Metal, aluminium, PVC, PET, PETG, PS, PLA, non PO or foams with density < 1 g/cm³
	Liners, Seals and Valves	PP (including PP-plastomers)	PE, removable aluminium liddings	Metal, aluminium, PVC, PET, PETG, PS, PLA, foiled paper, non PO or foams with density < 1 g/cm³
	Other Components	PP (including PP-plastomers)	PE	Metal, aluminium, PVC, PET, PETG, PS, PLA, non PO or foams with density < 1 g/cm³
Decoration	Inks**	Non-bleeding inks compliant with EuPIA Exclusion Policy; Printed production or expiry date	Printing with coverage < 50 %***	Bleeding inks; Inks non-compliant with EuPIA Exclusion Policy; PVC co- and terpolymer binders; Any other chlorinated binders; Printing covering > 50% ***
	Facestock Label Material	PP	PE	Metallized labels, any other; paper labels
	Adhesives for labels	Water soluble or water-releasable at less than 40°C		Adhesives non-soluble in water or non-releasable in water <40°
	Other Decorative Technologies	Laser marking for production or expiry date	Laser marking with coverage < 50 %***	