Coloured PE Flexible Films for Household and Commercial Packaging

| | FULL COMPATIBILITY | LIMITED COMPATIBILITY | NON-COMPATIBILITY |
|---|---|---|---|
| MATERIAL COMPOSITION (TOTAL AMOUNT OF PE & AMOUNT OF PP ATTACHMENTS IN THE PACKAGING) | A >= 95%, B >= 80% and all packaging features are FULLY compatible with recycling | C >= 70% and all packaging features are FULLY compatible with recycling | Non-recyclable < 70% and all packaging features are FULLY compatible with recycling |
| DESCRIPTION (TEST PROTOCOL) | Materials that passed the testing protocols with no negative impact**** OR materials that have not been tested (yet), but are known to be acceptable in PE recycling | Materials that passed the testing protocols if certain conditions are met**** OR materials that have not been tested (yet), but pose a low risk of interfering with PE recycling | Materials that failed the testing protocols OR materials that have not been tested (yet), but pose a high risk of interfering with PE recycling |
| DESCRIPTION (METHODOLOGY) | In case of at least one limited compatibility one penalty is applied, lowering the recyclability class from A to B or from B to C | In case of at least one limited compatibility one penalty is applied, lowering the recyclability class from C to non-recyclable | Non-recyclable |
| MATERIAL | Oriented and non-oriented LDPE, LLDPE (including PE-plastomers), HDPE; EVA, EBA, EEA, EMA copolymers with vinyl acetate and acrylate monomers representing < 5 % of the film; EMAA, EAA copolymers & ionomers <= 20 %; C3C2-plastomers <=15 % | Multilayer PE/PP with PP <= 5 % | Multilayer PE/PP with PP > 5 %; Any other polymer (e.g. PET, PVC, etc.) |
| COLOURS | Light colours; translucent colours | NIR-detectable dark colours (Sorting test) | Non NIR-detectable dark colours |
| SIZE | Packaging surface > 100 cm² | Packaging surface between 30 and 100 cm² (sorting test) | Packaging surface < 30 cm ² |
| PRODUCT RESIDUES (EASY TO EMPTY INDEX) | A if the index is < 5 %; B if the index is < 10 % | C if the index is < 15 % | Index is >= 15 % |
| BARRIER*** | SiOx and AlOx without additional coatings; | $ \begin{array}{l} \leq \!\!\! = 5 \% \text{EVOH} \text{(in polyolefinic combination film);} \\ \text{Metallisation: } \text{PVOH \& soluble } \text{EVOH} \leq \!\!\! = 1 \% \text{with melt temperature} < \!\!\! < \!\!\! 225 ^\circ\!\! \text{C};} \\ \leq \!\!\!\! \leq \!\!\! \leq \!\!\! 15 \% \text{PA 6/66 copolymer with melting temperature} < 192 ^\circ\!\! \text{C} \text{and incorporating} > \!\!\! = 10\% \text{PE-g-MAH tie layers} \\ \end{array} $ | > 5 % EVOH (in polyolefinic combination film); Any other PA; PVOH > 1 %; PVC, PVDC barrier layers; any other barrier layer; aluminium |
| ADDITIVES | Additives that do not increase the density higher than 0,97 g/cm³ | | Bio-/oxo-/photodegradable additives; foaming agents used as expanding chemical agents; Additives that do increase the density higher than 0,97 g/cm³ (CaCO3, talc, glass fibers, etc.) |
| LAMINATING ADHESIVES | Polyurethanes and water-based acrylics <= 3 %; Laminating adhesives approved as fully compatible by RecyClass; To be tested if in combination with other barrier material than EVOH and metallisation | Polyurethanes and water-based acrylics 3-5 %; Laminating adhesives approved as limited compatible by RecyClass; To be tested if in combination with other barrier material than EVOH and metallisation | Polyurethanes and water-based acrylics >5 %; Laminating adhesive specially developed for high thermal applications above boiling and/or for high chemical resistance (to be tested); Any other laminating adhesives (Epoxy, etc.) |
| CLOSURE SYSTEM | LDPE, LLDPE (including PE-plastomers), HDPE | PP | Metal, aluminium, PVC, PET, PETG, PS, PLA, non PO or foams with density < 1 g/cm³ |
| LINERS, SEALS AND VALVES | LDPE, LLDPE (including PE-plastomers), HDPE | PP, removable aluminium lidding | Metal, aluminium, PVC, PET, PETG, PS, PLA, foiled paper, non PO or foams with density < 1 g/cm³ |
| OTHER COMPONENTS | LDPE, LLDPE (including PE-plastomers), HDPE | РР | Metal, aluminium, PVC, PET, PETG, PS, PLA, paper, foams with density < 1 g/cm ³ |
| FACESTOCK LABEL MATERIAL | PE | PP | 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 at less than 40°C |
| DECORATION INKS | PU-based inks (with no NC); Inks & Varnish < 5 %. Non-bleeding inks compliant with <u>EuPIA Exclusion Policy</u> : | <= 0.8% of NC-binders**** Inks & Varnish 5 - 7 % | > 0.8% of NC-binders; Inks & varnish > 7 %; Bleeding inks; Inks non-compliant with EuPIA Exclusion Policy; PVC co- and terpolymer binders; Any other chlorinated binders |
| OTHER DECORATIVE TECHNOLOGIES | Laser marking with coverage < 50 %** | Laser marking with coverage > 50 %** | |

RECYCLED CONTENT: No change in the recyclability assessment. A separate 'Recycled Plastics Traceability Certification' based on a Chain of Custody approach is available with RecyClass.

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www.recyclass.eu

^{*} Polymer resin can be either fossil- or bio-based, virgin or recycled.

^{**} Temporary solution.

[&]quot;" remporary solution.
"" Guidelines are non-company specific. Barrier structures compatible with recycling are listed in RecyClass Approval page.
""NC-binders will be reconsidered based on future findings from RecyClass and SafeCycle project
""" Approved technologies can be found here