# Coloured PP Containers and Tubes

| | | FULL COMPATIBILITY | LIMITED COMPATIBILITY | NON-COMPATIBILITY |
|---|---|---|---|---|
| | MATERIAL COMPOSITION (TOTAL AMOUNT OF **PP** & **PE** 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***<br>OR<br>materials that have not been tested (yet), but are known to be acceptable in PP recycling | Materials that passed the testing protocols if certain conditions are met***<br>OR<br>materials that have not been tested (yet), but pose a low risk of interfering with PP recycling | Materials that failed the testing protocols<br>OR<br>materials that have not been tested (yet), but pose a high risk of interfering with PP 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 |
| PACKAGING | MATERIALS* | PP<br>TPO <= 10 % (full olefinic or aliphatic structure)<br>TPS <= 10 % | PE <= 10 % | Multilayers PP with PLA; PVC; PS; PET; PETG;<br>PE > 10 %;<br>TPO (containing rubber, e.g EPDM) |
| MAIN BODY | COLOURS | All colours | Black inner layer and dark colours (NIR-detectable) | Non NIR detectable colours |
| | SIZE | | Items compacted <= 5 cm | Items compacted <= 2 cm |
| | 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 | EVOH <= 6 % + PP-g -MAH tie layers with MAH >= 0.1wt% and EVOH:tie layers ratio <= 2; | EVOH > 6 % + PP-g -MAH tie layers with MAH >= 0.1wt% and EVOH:tie layers ratio <= 2; EVOH <= 1 % with any other tie layers; Metallisation | EVOH > 1 % with different tie layers; PA; PVDC; Aluminium |
| | ADDITIVES | Additives that are unavoidable in processing (stabilizers, antioxidants, lubricants, nucleating agents, peroxides) and density remains <0,97 g/cm³ | Mineral fillers (CaCO3, talc) not increasing density more than 0,97 g/cm³ | Additives changing the material density > 1 g/cm³; Flame-retardant additives, plasticizers; Bio-/oxo-/photodegradable additives |
| | LAMINATING ADHESIVES | Acrylics <= 2.5 %; PU < 3 %; Laminating adhesives approved as fully compatible by RecyClass.<br>To be tested if in combination with other barrier material than metallisation | PU between 3 and 4.5 %<br>Laminating adhesives approved as limited compatible by RecyClass; To be tested if in combination with other barrier material than metallisation | PU > 4.5 % ; To be tested: Laminating adhesives specially developed for high thermal applications above boiling and/or for high chemical resistance |
| ATTACHMENTS | CLOSURE SYSTEM | PP | HDPE; LDPE; LLDPE; MDPE;<br>PET; PETG; PLA; PS (all with a density > 1 g/cm³);<br>Removable aluminium lidding | Non-PO and/or foams with density < 1 g/cm³; Aluminium; Metal; PVC |
| | LINERS, SEALS AND VALVES | PP;<br>TPO; TPS; EVA<br>PO foamed | HDPE; LDPE; LLDPE; MDPE;<br>PET, PETG, PLA, PS (all with a density > 1 g/cm³);<br>Removable silicon with a density > 1 g/cm³; | Non-PO with density < 1 g/cm³;<br>Any other TPE;<br>Aluminium; Metal; Foiled paper; PVC |
| | OTHER COMPONENTS | PP | PE with density < 1 g/cm³; PET; PETG; PLA; PS all with density > 1 g/cm³ | Aluminium; PVC; Glass components;<br>Non-PO and /or foams with density < 1 g/cm³ |
| DECORATION** | LABEL MATERIALS | PP (all with density < 1 g/cm³) | PE, PO (with density < 1 g/cm³);<br>PET, PETG, PLA, PS (all with density > 1 g/cm³);<br>Paper without fibreloss;<br>PO-foamed | Labels that hinder the recognition of the PP;<br>Non PO-materials with density < 1 g/cm³ ;<br>Paper with fibreloss during recycling process; Aluminium; Metallised labels; PVC |
| | ADHESIVES FOR LABELS | Releasable in the recycling process | Non-releasable adhesive approved by RecyClass in combination with filmic PO labels | Non-releasable in the recycling process |
| | IN-MOULD-LABELS | In-Mould-Labels in PP printed with < 1 wt% of the total packaging<br>Releasable in the recycling process | Any other In-Mould-Labels in PP | Non-releasable in the recycling process in other materials than PO; Cardboard or paper in In-Mould Labels |
| | SLEEVES | PO (all with density < 1 g/cm³),<br>Self-separable plastic and carboard sleeves under mechanical stress (sorting test mandatory) | PE (with density < 1 g/cm³); PET, PETG, PET-C, PLA, PS (all with density > 1 g/cm³),<br>Carboard sleeves without fiberloss (sorting test mandatory) | Sleeves that hinder the recognition of the PP;<br>Non PO-materials with density < 1 g/cm³ ;<br>Cardboard sleeves with fibreloss during recycling process;<br>Aluminium; Metallised Sleeves; PVC; |
| | INKS | Retentive inks compliant with EuPIA Exclusion Policy;<br>Inks & lacquer for direct printing representing <1 wt% of the total packaging not hindering NIR detection | More than 1 wt% direct printing (to be tested) | Bleeding inks;<br>Inks non-compliant with EuPIA Exclusion Policy; PVC co- and terpolymer binders; Any other chlorinated binders |
| | OTHER DECORATIVE TECHNOLOGIES | Laser marking | Electroplating on attachments (with density >1 g/cm³);<br>Cold transfer and hot stamping technologies not hindering NIR detection | Electroplating on attachments (with density <1 g/cm³) |

**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

* Polymer resin can be either fossil- or bio-based, virgin or recycled. If different grades of the same polymer are present, weights should be cumulated.

** Decorative technologies must not hinder the recognition of the underlaying PP-polymer. Features as size, print, mass colouration and/or barrier might require to perform a Sorting Evaluation Protocol. Known misleading features are listed on the RecyClass Methodology and the following size indications can be considered to ensure the recognition of PP:

- Size of non-PP surfaces on containers > 500 ml: < 70% coverage
- Size of non-PP surfaces on containers < 500 ml: < 50% coverage

*** Approved technologies can be found here

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RecyClass
Avenue de Broqueville 12
1150 Brussels, Brussels

Phone: +32 2 786 39 08
info@recyclass.eu
www.recyclass.eu