

COTREP

Comité Technique pour le Recyclage
des Emballages Plastiques

Recyclability of plastic pots and trays*

December 2018

Introduction

This document summarises **all COTREP eco-design recommendations to date** aimed at improving the recyclability of rigid plastic packaging (excluding bottles).

These recommendations are **based on current operating conditions for collection, sorting and recycling in France**, and thus reflect a situation in which sorting and recycling streams for plastic are being stabilised or developed. These recommendations may therefore change depending on progress made with recycling at the end of the roll-out period for the extended sorting guidelines in 2022.

For further information on the current situation regarding collection, sorting and recycling in France, please consult the [Cotrep Guide](#).

This document sets out **principles that should be observed** when designing packaging for inclusion in recycling streams in 2022 as well as **examples of existing or possible future solutions that are compliant with these principles**.

Some of the solutions presented are already recycled within France. However, not all of them are **necessarily recycled** (*e.g. if they are not collected or sorted at all French sorting centres*).

The 3 principles for producing a pot or tray* that is recyclable throughout France in 2022

1. Priority for recycling should be given to the heaviest element of the packaging, i.e. the tray or pot body.

To achieve this, the body must be single material and made of the following resins: PP, PE, PET or PS**.

2. Barriers, additives and loads should not compromise sorting and recycling.

Pots and trays should not contain any carbon black, loads or additives that alter their density. Compatible functional barriers should be used instead.

3. None of the associated elements should disrupt recycling of the tray or pot body.

Design choices for associated elements (lids, seals, absorbent pads, labels, inks, glues, etc.) should be based on the resin used in the body.

For example, requirements for a PET tray are different to those for a PP tray. See below for details.

For further details



* The term “pots and trays” refers to all rigid packaging except bottles

** PS: stream under development

Pots and trays with a PP body

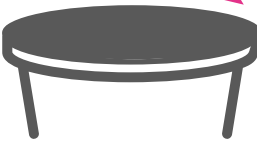
(based on the latest information available to COTREP in 2018)

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RECYCLABLE THROUGHOUT FRANCE in 2022

Load-free pot or tray body:
 ✓ If possible use: mono-PP
 Other options:
 ✓ PP/EVOH/PE*
 ✓ PP/EVOH/PP*


Closure system:
 ✓ Seal-free
 ✓ Rigid snap-on lid



**EVOH and PE should be minimised
(General Notice no. 53)*

Load-free pot or tray body:
 ✓ If possible use: mono-PP
 Other options:
 ✓ PP/EVOH/PE*
 ✓ PP/EVOH/PP*

Peel-off seal of density >1




Glue washable in cold water

**EVOH and PE should be minimised
(General Notice no. 53)*

Load-free pot or tray body:
 ✓ If possible use: mono-PP
 Other options:
 ✓ PP/EVOH/PE*
 ✓ PP/EVOH/PP*

Peel-off seal of density <1 combining PP, PE* and/or EVOH* only



Glue washable in cold water

**EVOH and PE should be minimised
(General Notice no. 53)*



To be avoided:

Pots and trays that:

- are combined with metallic or metallised elements
- are dark and contain carbon black
- contain loads
- are of density >1
- are supplied with labels attached with non-washable glue
- are supplied with labels made of incompatible materials (PVC, etc.).



Still being researched:

Impacts on the recyclability of pots and trays:

- Inks and glues
- Paper labels
- Absorbent pads
- Foams
- Other barriers

[For further details](#)

Carbon black

Loads and Density

Pots and trays with a PE body

(based on the latest information available to COTREP in 2018)

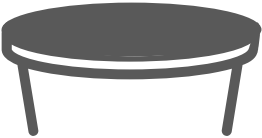
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RECYCLABLE THROUGHOUT FRANCE in 2022

Load-free pot or tray body:
✓ If possible use: **mono-PE**

Other options:
✓ PE/EVOH/PE*
✓ PE/EVOH/PP*

Closure system:
✓ Seal-free
✓ Rigid snap-on lid




**EVOH and PP should be minimised
(General Notice no. 52)*

Load-free pot or tray body:
✓ If possible use: **mono-PE**

Other options:
✓ PE/EVOH/PE*
✓ PE/EVOH/PP*

Peel-off seal of density >1




Glue washable in cold water

**EVOH and PP should be minimised
(General Notice no. 52)*

Load-free pot or tray body:
✓ If possible use: **mono-PE**

Other options:
✓ PE/EVOH/PE*
✓ PE/EVOH/PP*

Peel-off seal of density <1 combining PP*, PE and/or EVOH* only



Glue washable in cold water

**EVOH and PP should be minimised
(General Notice no. 52)*



To be avoided:

- Pots and trays that:
- are combined with metallic or metallised elements
 - are dark and contain carbon black
 - contain loads
 - are of density >1
 - are supplied with labels attached with non-washable glue
 - are supplied with labels made of incompatible materials (PVC, etc.)



Still being researched:

- Impacts on the recyclability of pots and trays:
- Inks and glues
 - Paper labels
 - Absorbent pads
 - Foams
 - Other barriers

[For further details](#)

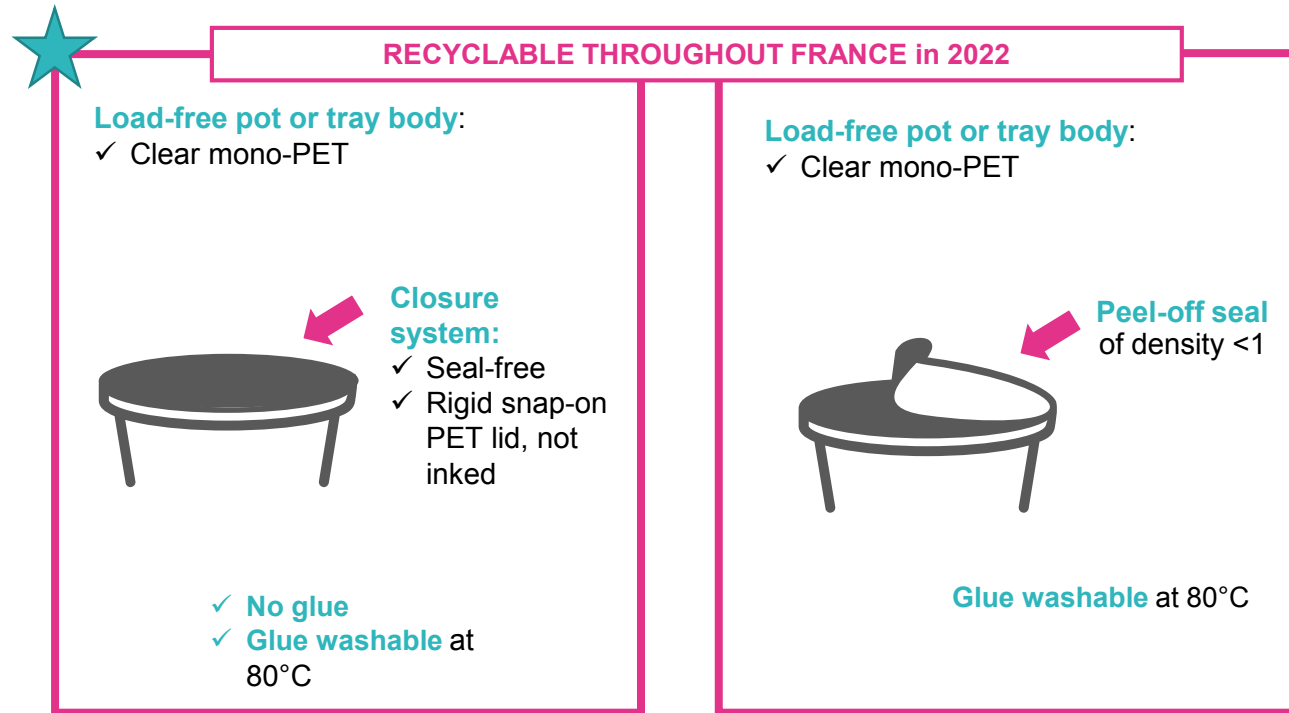
Carbon black

Loads and Density

Pots and trays with a clear PET body

(based on the latest information available to COTREP in 2018)

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To be avoided:

Pots and trays that:

- are made of PET/PE, PET/EVOH/PE, PETG
- are made of expanded PET
- are made of PET with opacifying mineral loads
- are made of clear PET with printed PET seal
- are made of PET with metallic or metallised elements
- are supplied with paper labels attached with glue that is non-washable at 80°C
- are supplied with labels made of an incompatible material (PVC, etc.)



Still being researched:

Impacts on the recyclability of pots and trays:

- Inks and glues
- Paper labels
- Absorbent pads
- Flexible PET in rigid PET
- PETG in rigid PET
- Other barriers

[For further details](#)

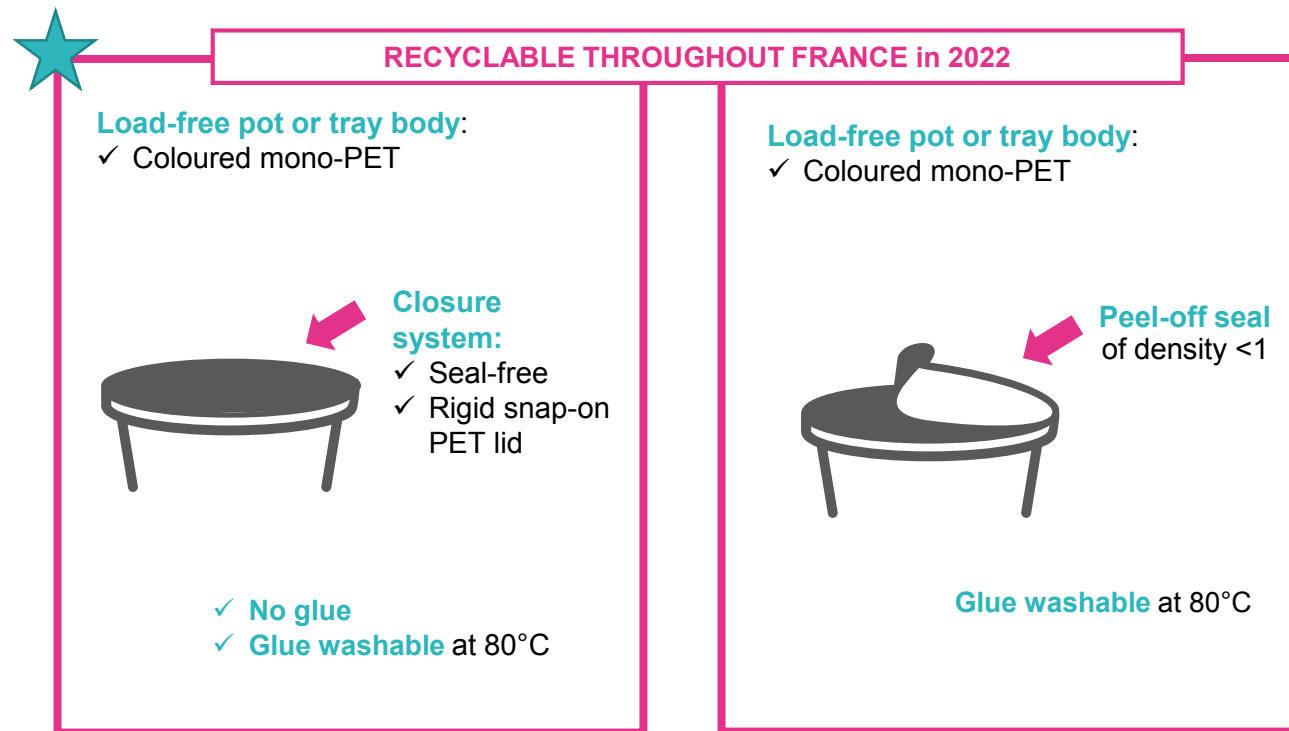
Carbon black

Loads and Density

Pots and trays with a coloured PET body

(based on the latest information available to COTREP in 2018)

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To be avoided:

Pots and trays that:

- are made of PET/PE, PET/EVOH/PE, PETG
- are made of expanded PET
- are made of PET with opacifying mineral loads
- are made of PET with metallic or metallised elements
- are supplied with paper labels attached with glue that is non-washable at 80°C
- are supplied with labels made of an incompatible material (PVC, etc.).



Still being researched:

Impacts on the recyclability of pots and trays:

- Inks and glues
- Paper labels
- Absorbent pads
- Flexible PET in rigid PET
- PETG in rigid PET
- Other barriers

[For further details](#)

Carbon black

Loads and Density

Pots and trays with a PS body

(based on the latest information available to COTREP in 2018)

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- **PS pots and trays that are sorted under the extension of the sorting guidelines are recycled.**
- **Work is in progress** to consolidate the recycling streams for PS, XPS and EPS as recycling facilities and **current outlets need to be developed.**

Under
review



Research on recycling streams in progress

The key principles of eco-design mentioned earlier remain applicable:

- Priority should be given to recycling the heaviest packaging element,
- Barriers, additives, loads and associated elements should not compromise sorting and recycling of the body.

Pots and trays with a body made of PVC, PETG, etc.

(based on the latest information available to COTREP in 2018)

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NON-RECYCLABLE



Not recycled in 2022,
Energy recovery*

Replace with another resin:
PET, HDPE, PP or PS**

* Excluding SRF (Solid Recovered Fuel) for PVC
**PS: stream under development

Under
review

What is happening with innovative resins?

- **PEF, PLA, etc.** Emergent new resins monitored and options explored to create a recycling stream for these resins



Focus on dark pots and trays

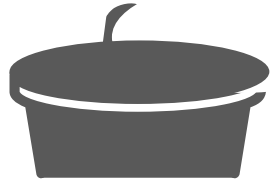
(based on the latest information available to COTREP in 2018)

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RECYCLABLE THROUGHOUT FRANCE in 2022

Pot and Tray:

- ✓ single-layer thermoformed or injected PET, PP, PE or PS* with colorant and no carbon black



* PS: stream under development



Still being researched:

- Acceptable carbon black content
- Positive list of dark colorants compatible with optical sorting by NIR (near infrared)



Focus on changes in density

(based on the latest information available to COTREP in 2018)

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- **All operators recycling** plastic packaging in Europe **sort waste by density** on their reprocessing lines
- The **density of PET pot and tray bodies** must be **higher than 1**
- The **density of PP and HDPE pot and tray bodies** must be **lower than 1**
- **Loads** in the plastic may **negatively impact the recyclability** of packaging, even if they do not affect the packaging density. Further information is available in the [Cotrep Guide](#).

