



September 9th, 2024

The Technical Committee of the European PET Bottle Platform (EPBP) was requested to evaluate the effect of Dongil Chemical Envilabel multilayer shrink film label material on the quality of recycled PET.

The film is based on multilayer PP and PS structure

The Dongil Chemical Envilabel multilayer shrink film is designed to be fully removable from PET flakes during the PET recycling process.

This EPBP opinion is valid only where non-bleeding inks are used in conjunction with Dongil Chemical Envilabel multilayer shrink film label material.

Data supplied from tests carried out conforming to the EPBP testing protocols demonstrated Envilabel shrink film flakes separation from the PET flakes during the recycling process.

Based on the assessment's outcome EPBP awards an endorsement to Dongil Chemical Envilabel multilayer shrink film label material under the following conditions:

- The inks must:
 - be non-bleeding
 - not contain CMRs
 - have high chemical resistance
 - have low migration
- During printing, care must be taken to ensure that the final label (film + print + adhesive layer) has a density of $<1 \text{ g/cm}^3$.
- The label substrate or the printing ink are not metallized.
- Fully black labels are not allowed and the bottle coverage must follow the related design guidelines. Thus, labels and sleeves should not cover more than 70% of the bottle surface for PET bottles of 500 ml and above; and not more than 50% for PET bottles smaller than 500 ml.
- The label or sleeve substrate or layer allows IR or NIR detection in the sorting and recycling process
- As this endorsement letter is not inclusive of all the technical details in the EPBP design guidelines which must always be followed

With prior notice to Dongil Chemical, the EPBP reserves the right to update and change the



conditions of this technical opinion at any time in accordance with the most recent technologies, assessments and experience.

The European PET Bottles Platform EPBP is an Industry initiative that provides PET bottle design guidelines for recycling, evaluates bottle packaging solutions and technologies, and facilitates understanding of the effects of new PET bottles innovations on recycling process. The EPBP initiative fully supports the economic and Environmental sustainability of the European PET value chain.