RecyClass

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Neopac

RECYCLASS TECHNOLOGY APPROVAL

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DISCLAIMER

RecyClass recognition applies only to Neopac 'Polyfoil® MMB Tube PF525/623' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this tube. Any specific packaging using this tube would need to be tested individually to demonstrate that the system of resin, adjuvants, label, closure, and printing conforms to the RecyClass Recyclability Evaluation Protocol for HDPE containers, and that it is sorted in the HDPE rigid stream at the state-of-art sorting plants in Europe.
Publication of results of testing of this technology MUST clearly include all the conditions listed in the approval letter. Partial reporting of the conditions is forbidden.
Additionally, any change in the formulation of the technology must be communicated to the Technical Committee which will reassess the approval of the technology.

The RecyClass HDPE Technical Committee was requested to carry out an assessment of the technology 'Polyfoil® MMB Tube PF525/623' by Neopac to verify its impact on the quality of recycled HDPE containers.

The technology is a laminated tube, containing sandwiched thin film metallization, and provided with HDPE shoulders, excluding cap. The tube is white-coloured and direct printed. The EVOH barrier concentration is below 4 % of the total weight of the packaging, with more than 3 % PE tie layers grafted with at least 0,1 % maleic anhydride. Laminated adhesive is PU based, solvent free and represents less than 1,5 wt%.

According to the results that were obtained from the laboratory test by the Institut für Kunststofftechnologie und -recycling (IKTR), carried out as per the Recyclability Evaluation Protocol for HDPE containers, the 'Polyfoil® MMB Tube PF525/623' technology is considered to be fully compatible with coloured HDPE recycling.

Based on these results, RecyClass acknowledges that Neopac 'Polyfoil® MMB Tube PF525/623' technology will not have a negative impact on the current European HDPE containers recycling and provided the full packaging using this tube as the body is designed under the following conditions:

a) The tube and its shoulders are made of clear or white HDPE;
b) The maximum EVOH concentration is below 4 wt% and provided by more than 3 wt% PE tie layers, grafted with a minimum concentration of 0,1% of maleic anhydride;
c) The laminated adhesive is PU based, solvent free and represents less than 1.5 wt%;
d) The film metallization has an optical density up to 2.4 (about 0,02µm thickness);

e) The density of the finished tube is lower than 1 g/cm^3;

f) Closures, liners, seals and valves, as well as any other components are made of PE;

g) Any additional component or features (e.g. inks, adhesives, etc) of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines.

RecyClass concludes that Neopac 'Polyfoil® MMB Tube PF525/623' technology as per current market conditions and knowledge, is fully compatible with the existing European industrial recycling processes for coloured HDPE containers. Indeed, the recycled plastic generated after the recycling process was successfully tested in high-value application such as HDPE bottles up to 25% concentration[1].

However, RecyClass recommends to review and further reduce the direct printing applied on the tube. Direct printing is to be avoided, as it leads to colouring of the recyclate, limiting its further applications

Similar executions of 'Polyfoil® MMB Tube PF525/623' technology with the only modification of artworks would not have to be tested again as long as the direct printing decoration amount and the components proportion remain the same.

In regard to RecyClass Recyclability Certification, the present full compatibility with coloured HDPE containers recycling approval delivered to Neopac 'Polyfoil® MMB Tube PF525/623' technology, means that a packaging containing the Neopac 'Polyfoil® MMB Tube PF525/623' as mentioned in the aforementioned conditions will not be penalised with a Recyclability Class downgrade. Nevertheless, the amount of recyclable PE will impact the final Recyclability Class obtained during Recyclability Certification[2]. Also, it should be noteworthy that the presence of additional packaging features could impact the certification process.

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[1] Recyclability Evaluation Protocol for HDPE containers

[2] RecyClass Recyclability Certification

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Annex I

Figure 1. Polyfoil® MMB Tube PF525/623 without cap by Neopac.