RecyClass

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Neopac

RECYCLASS PRODUCT APPROVAL

Brussels, 15 February 2023

DISCLAIMER

RecyClass recognition applies only to Neopac 'Polyfoil® MMB 545/645' product reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific artwork or size of this packaging. Any changes in the formulation of this packaging, not falling under the scope of this approval letter, 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 product 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 product must be communicated to the Technical Committee which will reassess the approval of the product.

The RecyClass HDPE Technical Committee was requested to carry out an assessment of the product 'Polyfoil® MMB 545/645' by Neopac to verify its impact on the quality of recycled HDPE containers.

The product is a laminated tube, provided with HDPE shoulders and cap. The tube is white-coloured and direct printed. The barrier properties are conferred by an organic novel lacquer technology applied within the tube body structure, based on PVOH, representing around 0.3% of the total weight of the packaging. Laminating adhesive is PU-based, aliphatic and solvent-free and account for approximately 0.6 wt%. Printing inks represent about 0.7 wt% and are acrylic-based. The packaging was tested decorated with a final artwork.

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[1], the 'Polyfoil® MMB 545/645' product is considered to be fully compatible with coloured HDPE recycling.

Based on these results, RecyClass acknowledges that Neopac 'Polyfoil® MMB 545/645' will not have a negative impact on the current European coloured HDPE containers recycling and provided that the packaging is designed under the following conditions:

a) The tube, shoulder and cap are made of HDPE;
b) The organic PVOH-based lacquer concentration is below 0.3 wt%;

[1] Recyclability Evaluation Protocol for HDPE containers

c) The laminated adhesive is PU based, aliphatic and solvent free and represents less than 0.6 wt%;

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

e) The printing inks are acrylic-based and represent less than 0.7 wt%;

f) Applied printing technology is compatible with recycling; since several printing options are possible, it is the responsibility of the end-user to choose an appropriate combination of inks and printing process to ensure that:

   i. the inks are non-bleeding;

   ii. the inks comply with the European Legislation (e.g. Packaging and Packaging Waste Directive on the heavy metal concentration levels) and are EUPIA compliant;

   iii. direct printing is limited as much as possible (see Annex I);

RecyClass concludes that Neopac 'Polyfoil® MMB Tube 545/645 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[2].

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

According to the RecyClass Recyclability Methodology[3] developed by RecyClass, 'Polyfoil® MMB 545/645' corresponds to a class ranking A. However, this letter is not a certification and does not allow the use of the class ranking logo. Therefore, *Neopac* is invited to contact one of the recognized Certification Bodies to get 'Polyfoil® MMB 545/645' product certified.

Similar executions of 'Polyfoil® MMB 545/645' product with the only modification of artworks and/or modification of the packaging size would not have to be tested again as long as the proportion of the components, including inks, lacquer, adhesives, remains the same.

[2] Recyclability Evaluation Protocol for HDPE containers

[3] Recyclability Methodology of RecyClass

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About RecyClass

RecyClass is a non-profit, cross-industry initiative advancing recyclability, bringing transparency to the origin of plastic waste and establishing a harmonized approach toward recycled plastic calculation & traceability in Europe. RecyClass develops Recyclability Evaluation Protocols and scientific testing methods for innovative plastic packaging materials which serve as the base for the Design for Recycling Guidelines and the RecyClass Online Tool. RecyClass established Recyclability Certifications for plastic packaging, Recycling Process Certification and Recycled Plastics Traceability Certification for plastic products.

RecyClass – Plastic Future is Circular

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Annex I

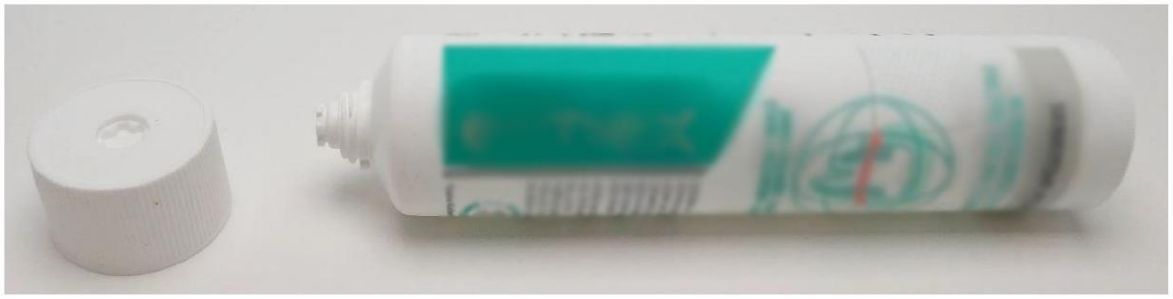

Figure 1. Polyfoil® MMB 545/645 with cap by Neopac.