

Multi-Color Corporation

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 14 June 2022

DISCLAIMER

RecyClass recognition applies only to MCC Verstraete, a Multi-Color Corporation 'NextCycle IML' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific commercial packaging using this label technology. Any specific packaging using this label technology 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 PP containers, and that it is sorted in the PP 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 PP Technical Committee was requested to carry out an assessment of the technology 'NextCycle IML' by MCC Verstraete to verify its impact on the quality of recycled PP containers.

The technology is an innovative PP In Mould-Label (IML) aiming to be applied on a PP container. The specificity of this IML technology lies in its ability to get separated from the container at the grinding stage. Then, the removed label flakes are separated from the container flakes by air elutriation resulting in clean flake recycling. The thickness of the tested IML is 80 µm. The tested IML has been applied on a PP tub (as reported in Annex I), representing less than 10% of the total weight of the packaging. This sample has been fully printed, including both inks and lacquer, totally counting for less than 1% of the total weight of the packaging and representing a coating weight of 5gsm.

According to the results that were obtained from the laboratory tests done by the Institut für Kunststofftechnologie und -recycling (IKTR), carried out as per the Recyclability Evaluation Protocol for PP containers, 'NextCycle IML' technology is considered to be **fully compatible with PP recycling**. Additionally, the sortability of the packaging has been successfully tested by National Test Centre Circular Plastics (NTCP) following the RecyClass Sorting Protocol¹. The samples were sorted as PP rigids with an efficiency of 98%.

¹ [Sorting Evaluation Protocol for Plastic Packaging](#)

Based on these results, RecyClass certifies that MCC Verstraete 'NextCycle IML' technology will have no impact on the current European PP containers recycling and provided that the full packaging is designed under the following conditions:

- a) The container is preferably made of clear PP;
- b) Any additional packaging component is made of PP;
- c) The density of the final packaging is lower than 1 g/cm³;
- d) The In Mould-Label represents less than 10% of the total weight of the packaging;
- e) The thickness of the label is 80µm or less;
- f) The coverage of the label is below 50% of the packaging surface for a packaging smaller than 500mL, and below 70% of the packaging surface for a packaging bigger than 500mL for natural PP packaging;
- g) The coating weight of the printing (inks + lacquers) is 5 gsm or less;
- h) The printed label must not hinder the recognition of the underlying PP natural container according to RecyClass Design-for-Recycling Guidelines;
- i) The printed label must not prevent the underlying natural PP container to get sorted in the clear PP recycling stream;
- j) 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.

RecyClass concludes that MCC Verstraete, a Multi-Color Corporation, 'NextCycle IML' technology as per current market conditions and knowledge, is fully compatible with the existing European industrial recycling processes for PP containers. Indeed, the recycled plastic generated after the recycling process was successfully tested in injection moulding applications up to a concentration of 50% innovation².

² [Recyclability Evaluation Protocol for PP containers](#)

It should be noteworthy that the full coverage of the IML will hamper the chance for a natural PP packaging to be sorted in the clear PP stream. Therefore, the RecyClass PP Technical Committee recommends to minimize the size of the label and the packaging surface coverage, as well as to use unprinted clear PP closure systems. Besides, it is also recommended to lower as much as possible the thickness of the IML to ensure an optimized separation by air elutriation and avoid too much loss.

About RecyClass

RecyClass is a comprehensive cross-industry initiative that works to advance plastic packaging recyclability and to establish a harmonized approach towards recycled content calculation and its traceability in Europe. Activities within RecyClass include the development of Recyclability Evaluation Protocols and scientific testing methods for innovative materials which serve as the base for the Design for Recycling Guidelines and the Recycling Online Tool. RecyClass offers Recyclability Certifications for plastic packaging and Recycled Content Traceability Certification for plastic products.

Contact: www.recyclclass.eu

Annex I



Figure 1 Tested packaging decorated with a NextCycle IML by MCC Verstraete