

Leonhard Kurz

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 18 November 2020

Reviewed: Brussels, 20 December 2023

DISCLAIMER

RecyClass recognition applies only to Leonhard Kurz cold transfer 'InLine Foiling' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this technology. Any specific packaging using this 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 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 Cold Transfer 'InLine Foiling' decoration technology by Leonhard Kurz to verify its impact on the quality of recycled HDPE containers.

The cold transfer 'InLine Foiling' decoration is applied on HDPE tubes and bottles, and consists in transferring the decoration layer to the packaging by depositing few microns of several layers: top coats, metallization (about 15 nanometres) and UV curable adhesive. The technology was tested on HDPE tubes with a surface coverage of 30 % (i.e. 1.5 % of the total weight of the packaging).

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 cold transfer 'InLine Foiling' technology is **fully compatible with HDPE recycling**.

Based on these results, RecyClass acknowledges that Leonhard Kurz cold transfer 'InLine Foiling' technology will not have a negative impact on the current European HDPE containers recycling under the following conditions¹:

- a) The packaging is designed preferably in white;

¹ HDPE containers designed under conditions other than those indicated need to be tested to assess their compliance with RecyClass Recyclability Evaluation Protocol for HDPE containers.

- b) The density of the finished packaging is lower than 1 g/cm³;
- c) Cold transfer 'InLine Foiling' decoration represents up to 30 % of the total surface coverage of the packaging; and the decoration is preferably silver coloured, or light color shade (such as light gold colours);
- d) Any additional component or features (e.g. inks) of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines².

RecyClass concludes that Leonhard Kurz cold transfer 'InLine Foiling' technology as per current market conditions and knowledge, is fully compatible with the existing European industrial recycling processes for 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 % concentration³.

In regard to RecyClass Recyclability Certification, the present full compatibility with HDPE containers recycling delivered to Leonhard Kurz cold transfer 'InLine Foiling' technology, means that a packaging containing this technology as mentioned in the aforementioned conditions will not be penalised with any Recyclability Class downgrade. Moreover, the amount of recyclable PE will impact the final Recyclability Class obtained during Recyclability Certification and should be kept above 95 % or 90 % in the final packaging to maximise chances to get a Recyclability Certificate with a Class A or B, respectively⁴. Also, it is noteworthy that the presence of additional packaging features could impact the certification process.

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](#)

Follow the latest news on RecyClass channels: [LinkedIn](#) | [Twitter](#) | [YouTube](#)

Contact : Jean-Emile.Potaufoux@plasticsrecyclers.eu, www.recyclass.eu

² [Design for Recycling Guidelines - RecyClass](#)

³ [Recyclability Evaluation Protocol for HDPE containers](#)

⁴ [RecyClass Recyclability Certification](#)

Annex I



Figure 1: Tested cold transfer 'InLine Foiling' technology by Leonhard Kurz.