

Leonhard Kurz

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 20 April 2021

DISCLAIMER

RecyClass recognition applies only to Leonhard Kurz cold transfer 'InLine Foiling' technology reported in Annex I. It, therefore, does not concern to a recyclability assessment of specific packaging using this technology. Any specific packaging using this technology would need to be tested individually to demonstrate the system of resin, adjuvants, label, and closure conformed to the RecyClass Recyclability Evaluation Protocol for HDPE containers, and that it is sorted in the HDPE 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 70% (i.e. 3.4% of the total weight).

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 considered to be **limited compatible with coloured HDPE recycling**. Additionally, the sortability of the packaging has been successfully tested by Suez.Circpack® following the RecyClass Sorting Protocol.

Based on these results, RecyClass certifies that Leonhard Kurz cold transfer 'InLine Foiling' technology will have a limited impact on the current European coloured HDPE containers recycling under the following conditions:

- a) The packaging is in white;
- b) The density of the finished packaging is lower than 1 g/cm³;

- c) Cold transfer 'InLine Foiling' decoration represents up to 70% of the total body packaging surface coverage ; and the decoration is preferably silver coloured, or light color shade (such as light gold colours);
- d) No additional printing technology are applied, and in any case, 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 Leonhard Kurz cold transfer 'InLine Foiling' technology as per current market conditions and knowledge, is limited compatible with the existing European industrial recycling processes for coloured HDPE containers. The plastic generated by the recycling process may be used in high quality applications such as HDPE bottles up to 25% concentration¹.

About

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 traceability in Europe. Activities within RecyClass include the development of Recyclability Evaluation Protocols and scientific testing of innovative materials which serve as the base for the Design for Recycling guidelines and the free online tool. RecyClass offers Recyclability Certifications and Recycled Content Traceability Certification for plastic packaging.

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¹ [Recyclability Evaluation Protocol for HDPE containers](#)

Annex I



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