RecyClass

c/o Plastics Recyclers Europe
Avenue de Broqueville 12
1150 Brussels, Brussels

Phone: +32 2 786 39 08
info@recyclass.eu
www.recyclass.eu

Zotefoams

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 14 November 2022

DISCLAIMER

RecyClass recognition applies only to Zotefoams 'ReZorce' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this foamed PE sheet. Any specific packaging using this foamed PE sheet 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 *'ReZorce'* by Zotefoams to verify its impact on the quality of recycled HDPE containers.

The technology is a white PE foamed sheet. The sheet is composed by different PE grades and about 2.8% of EVOH considering the total weight of the sheet. The amount of fillers count for about 3.5 % of the total weight of the sheet. No chemical foaming agents are used during the foaming process. The sheet was tested unprinted.

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 HDPE containers, *'ReZorce'* technology is considered to be limited compatible with coloured HDPE recycling.

Based on these results, RecyClass acknowledges that Zotefoams *'ReZorce'* technology will have a limited impact on the current European coloured HDPE containers recycling and provided that the full packaging using this foamed PE sheet is designed under the following conditions:

a) The packaging is made of PE, with a prevalence of HDPE;
b) The EVOH concentration is less than 2.8% respect to the sheet total weight;
c) EVOH is compatibilized with LLDPE tie layers grafted with maleic anhydride, with an EVOH: tie layer ratio lower than 2.
d) The final density of the packaging is lower than 1 g/cm^3;

e) No chemical foaming agents are used during the foaming process;

f) No printing technology is 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. printing is limited as much as possible, using preferably light colours.

RecyClass concludes that Zotefoams *'ReZorce'* technology as per current market conditions and knowledge, is limited 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].

In regard to RecyClass Recyclability Certification, the present limited compatibility with coloured HDPE containers recycling approval delivered to Zotefoams *'ReZorce'* technology, means that a packaging made of the Zotefoams *'ReZorce'* as mentioned in the aforementioned conditions will be penalised with one Recyclability Class deduction. Moreover, 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.

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

[1] Recyclability Evaluation Protocol for HDPE containers

[2] RecyClass Recyclability Certification

Annex I

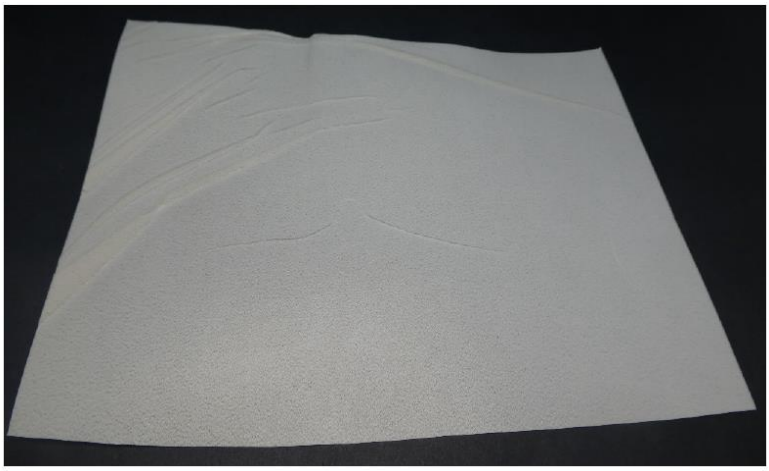

Figure 1. ReZorce by Zotefoams.

c/o Plastics Recyclers Europe
Avenue de Broqueville 12
1150 Brussels, Brussels

Phone : +32 2 786 39 08
info@recyclass.eu
www.recyclass.eu