

Henkel

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 22 November 2021

DISCLAIMER

RecyClass recognition applies only to Henkel 'Loctite Liofol LA7102 RE+ Loctite Liofol LA-6902 RE' technology reported in Annex I. It, therefore, does not concern to a recyclability assessment of specific packaging using this laminating adhesive technology.

Any specific packaging using this laminating adhesive 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 PE films, and that it is sorted in the PE flexible 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 PO films Technical Committee was requested to carry out an assessment of the technology 'Loctite Liofol LA7102 RE+ Loctite Liofol LA-6902 RE' by Henkel to verify its impact on the quality of recycled PE flexible packaging.

The technology is a combination of two components solvent-free laminating adhesive laminated between two LDPE film. The tested structure consisted in an LDPE/laminating adhesives/LDPE film with the 'Loctite Liofol LA7102 RE+ Loctite Liofol LA-6902 RE' as a laminated layer, and representing 1,6% of the total weight of the film. The film has been tested unprinted.

According to the results that were obtained from the laboratory test by Aimplas, carried out as per the Recyclability Evaluation Protocol for PE films, the 'Loctite Liofol LA7102 RE+ Loctite Liofol LA-6902 RE' technology is considered to be **fully compatible with PE flexibles recycling.**

Based on these results, RecyClass certifies that Henkel 'Loctite Liofol LA7102 RE+ Loctite Liofol LA-6902 RE' technology will have no negative impact on the current European PE flexibles recycling provided that PE flexible films using this technology are designed only under the following conditions:

- a) The density of the PE film is below 0,97 g/cm³:
- b) The laminating adhesive 'Loctite Liofol LA7102 RE+ Loctite Liofol LA-6902 RE' is solvent-free aliphatic/aromatic polyurethanes based and represents 1,6% of the total weight of the film, or less;

- c) 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 Henkel laminating adhesive ‘Loctite Liofol LA7102 RE+ Loctite Liofol LA-6902 RE’ technology as per current market conditions and knowledge, is fully compatible with the existing European industrial recycling processes for PE flexibles. The plastic generated by the recycling process may be used in high quality applications such as PE blown films up to 25%¹.

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 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 Technology tested according to the RecyClass [Recyclability Evaluation Protocol for PE films](#)

Annex I



Figure 1 'Loctite Liofol LA7102 RE+ Loctite Liofol LA-6902 RE' technology by Henkel used as laminating adhesives