

SCGC

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 07 March 2022

DISCLAIMER

RecyClass recognition applies only to SCGC 'BWO1501G' barrier coating technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this barrier technology.

Any specific packaging using this barrier 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 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 barrier coating technology 'BWO1501G' by SCGC to verify its impact on the quality of recycled PE flexible packaging.

The technology is a PE-based multilayer film with barrier properties conferred by the 'BWO1501G' as the barrier coating. The barrier coating is water-based polyvinyl alcohol and polyurethane based and represents approximately 2% of the total weight of the film. The two PE layers are laminated with a two-component solvent-based aromatic polyurethane lamination adhesive representing 2.4% 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 'BWO1501G' technology is considered to be **limited compatible with PE flexibles recycling**.

Based on these results, RecyClass certifies that SCGC 'BWO1501G' barrier technology will have a limited 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 film is below 0.97 g/cm³;

- b) The barrier coating 'BWO1501G' is water-based polyvinyl alcohol and aliphatic polyurethane based and represents less than 2% of the total weight of the film;
- c) The laminating adhesive is a two-component solvent-based aromatic polyurethane and represents less than 2.4% of the total weight of the film;
- d) 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 SCGC 'BWO1501G' technology as per current market conditions and knowledge, is limited 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.

It should be noteworthy that the chemistry of adhesive used in such laminating structures can strongly affect the compatibility of the overall film with PE recycling. Therefore, the RecyClass Technical Committee for PO films recommends to use an adhesive known as compatible with recycling not to hamper the recyclability of the film.

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

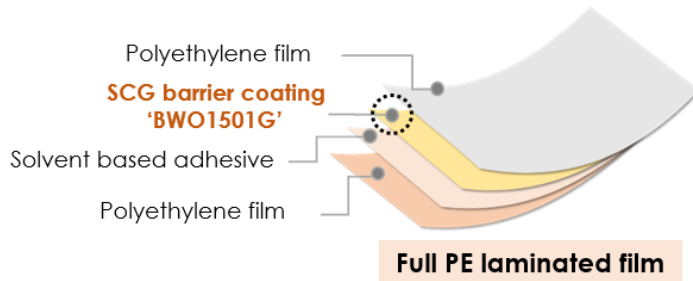


Figure 1 'BWO1501G' technology by SCGC used as barrier coating