
New Test Results Confirm Recyclability of Fibre-Based Packaging Printed with UV-Curing Inks

Information Note

September 2026

Executive summary

Independent recyclability testing commissioned by the British Coatings Federation (BCF) assessed six representative fibre-based packaging samples printed using UV-curing inks, covering a range of printing technologies and varnish systems. All samples were classified as technically recyclable in conventional (or standard) recycling mills, achieved high fibre recovery yields and showed no issues with sheet adhesion or filtrate contamination. Visual impurities were limited, with five samples showing only minor visual quality issues and one sample showing some visual quality issues. The findings provide evidence that UV-curing ink technologies can be compatible with established fibre recycling processes.

Key findings

The testing generated the following core results. Further details are provided in the annex.

1. All samples were classified as “Technically Recyclable”

All six printed boards met the recyclability requirements of the CEPI test method and were classified as “Technically recyclable in a mill with a conventional process.” None of the samples triggered any “knockout criteria.”

2. Fibre recovery was excellent

All samples achieved very high Total Screening Yield (TSY) scores, confirming that fibre recovery was not negatively affected by the presence of UV-curing inks.

3. Visual impurities were low and within expectations

- Five samples scored Level 2 (“minor visual quality issues”)
- One sample scored Level 3 (“some visual quality issues”)

4. No issues with sheet adhesion or filtrate contamination

All samples achieved the highest scores for:

- Sheet adhesion (no tackiness)
- Dissolved and colloidal substances (minimal filtrate contamination)

Summary for printers, converters, and brand owners

UV-curing inks are compatible with mainstream fibre recycling systems

The testing provides clear evidence that UV-curing inks do not hinder the recyclability of fibre-based packaging in conventional recycling mills.

The results support continued use of UV-curing inks in relevant applications

The results confirm good recyclability performance across several UV printing technologies and varnish systems represented in the study.

The data does not support blanket deprioritisation of UV curing ink technologies on recyclability grounds

The findings do not support a general reduction or restriction of UV-curing ink technologies on the basis of recyclability alone. Decisions should be based on evidence from relevant test methods and actual packaging constructions.

Background to the testing

The BCF commissioned the work to support members in responding to questions about the use of UV printing inks on paper and board packaging and their implications for recyclability. The work followed the publication of UK packaging industry guidance that de-prioritised UV-curing inks on the basis that they could negatively affect the recyclability of paper and board packaging materials.

To provide clarity for printers, converters and brand owners, the BCF Printing Ink Technical Committee commissioned independent laboratory recyclability testing to generate robust, evidence-based data.

How the testing was conducted

Testing was performed by Ecol Studio in Italy using the CEPI Recyclability Laboratory Test Method, Version 3, the same method used in the 4Evergreen initiative to assess fibre-based packaging recyclability. The method reflects the conditions of a conventional (standard) recycling mill without de-inking, making it relevant to mainstream recycling infrastructure.

Samples tested

- Six UV-printed board samples supplied by four BCF member companies were evaluated.
- The samples were representative of typical supermarket packaging.
- The printing technologies covered UV offset, UV flexo and UV digital inkjet.
- The samples included different varnish types: water-based, UV gloss, UV matt or no varnish.

Conclusion

The independent recyclability testing commissioned by the BCF demonstrates that the tested fibre-based packaging samples printed with UV-curing inks were technically recyclable using conventional recycling processes. These results provide an evidence base for printers, converters, brand owners and guidance developers when assessing the role of UV-curing inks in recyclable fibre-based packaging.

Annex: Test results tables

Table 1: Results for each sample

Sample ID	UV Ink Technology	Varnish Type	Total Recyclability Score (TRS)	Total Screening Yield Score	Visual impurities (Level)	Sheet Adhesion Score	Dissolved and Colloidal Substances Score
1 	Offset	Water-based varnish	94	99	2	1	0 to -3
2 	Flexo	UV gloss and UV matt varnish	93	99	2	1	0 to -3
3 	Digital inkjet	No varnish applied	91	98.6	2	1	0 to -3
4 	Offset	UV varnish	86	96	2	1	0 to -3
5 	Flexo	UV varnish	86	95.6	2	1	0 to -3
6 	Flexo	UV Varnish	82	99.3	3	1	0 to -3

Table 2: Results mapped against the 4Evergreen Results Interpretation Table

Total Recyclability Score	Yield		Visual Impurities		Sheet Adhesion		Dissolved and Colloidal Substances Score	
	Score	Description	Level	Description	Level	Description	Score	Score Interpretation
0-100 Suitable for standard mill recycling	100-90	Best in class	1	No visual quality issues	1	No adhesion issues	0 to -3	DCS expected to pose negligible issues in the process
	89-70	Minor <u>repulpability</u> issues	2	Minor visual quality issues	2	Minor adhesion issues		
	69-50	Some <u>repulpability</u> issues	3	Some visual quality issues	3	Significant adhesion issues		
<0 Not suitable for standard mill recycling	49-0	Significant <u>repulpability</u> issues	4	Significant visual quality issues				
	<0	Major <u>repulpability</u> issues						