

Recyclability of UV Product Printed Paper and Board Packaging

Background

Printing inks recyclability is often called into question by different bodies in across a range of countries. Lately, some documents have been published on the topic of paper and board packaging and recyclability (e.g. in UK in 2019 and Italy in 2021). All of these documents contain statements that indicate that UV inks cause substantial problems to paper and board recycling. Unfortunately, the organisations issuing such documents never consulted printing ink manufacturers during their preparation and as a consequence did not accurately reflect the current situation with regard to the recyclability of UV printed paper and board.

Despite these inaccuracies, all of these documents have received wide attention within a range of organisations across Europe and UK.

Contact has been made by the printing ink industry with the authors of these publications, with the objective that in future more informed information is shared appropriately throughout the supply chain on this important topic. Unfortunately, the misleading initial statements have continued to circulate and influence the view of stakeholders in the recycling industry across Europe and UK.

Recyclability of UV-printed materials

In general, UV-printed materials can be perceived to be more challenging to recycle than other print technologies, however several studies have clearly shown that UV inks can be removed from paper & board (i.e. are deinkable) without major problems when following appropriate procedures, including a FOGRA study¹ from 2011, work by the industry body RadTech² and information provided by GreenBlue on the importance of using the correct repulping equipment³. In addition, a project recently completed in Germany (involving the German printing ink manufacturers trade association (VdL), the Technical University of Darmstadt and Sächsisches Institut für die Druckindustrie GmbH)⁴ has shown that there is a range of UV inks that are capable of meeting the exacting standards of the INGEDE Method 11 for recyclability of graphic paper. A review of the recyclability of a number of different printed packaging substrates completed by the American Forest and Paper Association⁵ has led to the same conclusion, in other words that UV and electron beam (EB) cured inks cause few problems to recyclability.

In conclusion

UV-printed paper based materials are recyclable, and printing ink manufacturers continue to invest resources to further improve the deinkability performance of UV inks and minimise their impact on current paper and board recycling procedures.

EuPIA European Technical Committee

23/04/2021

- 1 Fogra-Forschungsbericht Nr 30.028, December 2011 'Recyclierbarkeit von Druckprodukten auf Basis von UV-härtenden Druckfarben', Stephan Dietzel et al.
- 2 RadTech Report May/June 2005 pp47-49. 'Recyclability of UV and EB Printed and Coated Paper', David Korn
- 3 <http://fpwg.info/wp-content/uploads/2015/08/ctl-design-for-recovery-paper.pdf>
- 4 AiF-Projekt 20476 BG Grafischer UV-Druck: UV-Farben im Bogenoffsetdruck – Deinkbarkeit und migrierfähige Inhaltsstoffe
- 5 Design Guidance for Recyclability, AF&PA February 2021
<https://afandpa.org/sustainability/design-guidance-recyclability>