SIEGWERK

06/29/2023 Insight

Siegwerk takes deinking topic to new heights

Siegwerk, in collaboration with the Hamburg University of Technology and Sichuan University undertook a study to screen the impact of surfactants and reaction conditions on the de-inkability of different printing ink systems for plastic packaging.

The researchers determined that many printing inks were found to be deinkable in aqueous alkaline deinking conditions.

Interactions between different ink ingredients, washing conditions and detergents were studied and it was determined that:

- Siegwerk's polycirQ P2 detergent displayed the highest deinking performance in medium to harsh conditions (>= 55°C; >= 1 w% NaOH)
- Inks that are generally considered "easy to deink" work with all detergents if the temperature and NaOH (sodium hydroxide) concentrations are harsh enough

- Evoniks W111 was found to be the best detergent for mild conditions (40°C no NaOH) and can achieve partly deinking – however at harsher conditions this is no longer the case.
- Inks and coatings with heavy crosslinking are difficult to remove and would require either extremely harsh conditions or the addition of a deinking primer to facilitate ink removal.

Siegwerk is taking this topic even further with the creation of the DIN SPEC 91496 – a project run by DIN e.V. with the goal to create an public, easy to use and quantitative test to evaluate the deinkability of inks and packaging.

The full study results can be accessed here: https://www.mdpi.com/2073-4360/15/9/2220

Media contact

Nathalie Müller-Samson
Manager Corporate Communications

Tel: +49 162 200 2727
Email: nathalie.mueller-samson(at)siegwerk.com

Read and share this content online

Scan the QR code to open this article on the Siegwerk website.