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Siegwerk receives APR recognition for deinking technology for improving the recyclability of PET bottles

With its AQUANTUM Alkali Strippable Primer and SICURA UV/LED ink technology Siegwerk sets a new standard for the recycling of PET bottles: It significantly facilitates the deinking of UV/LED-printed PET shrink sleeves further improving the quality of recycled PET bottles according to the Association of Plastic Recyclers (APR).

Siegwerk, one of the leading global providers of printing inks for packaging applications and labels, has developed a proprietary washable ink technology that enables deinking of UV/LED-printed PET shrink sleeves allowing for a recycling of the sleeve along with PET bottles. The technology has been accredited as the first UV/LED solution of its kind by the Association of Plastic Recyclers (APR), the national trade association of the US plastics recycling

industry, that meets its guidelines for the quality improvement of recycled PET bottles.

“With our AQUANTUM Alkali Strippable Primer and SICURA UV/LED inks, we developed a solution especially allowing safe and efficient deinking of crystallizable PET shrink films printed with UV/LED inks following the APR’s deinking and recycling criteria”, explains Fabian Köhn, Global Product Manager Narrow Web at Siegwerk. “The deinking of UV/LED-printed sleeves represents a special challenge for recycling. As standard UV inks form a solid, chemically, and mechanically resistant layer they are not easily and, in most cases, not completely removable from the substrate and therefore minimize the quality of the recycled material.” Siegwerk’s primer technology works with SICURA UV/LED flexo ink series and offers good block resistance, as well as grease, oil, and heat resistance. It enables recycling of PET sleeves along with the PET bottles without the need of separating bottles and sleeves before. The sleeved bottles are grinded resulting in a mixture of PET bottle material and printed PET shrink sleeve material which is washed in a hot caustic (alkali) washing step. Here, the primer dissolves, the ink washes off and leaves the clear substrate but does not contaminate the wash water nor the PET film meeting requirements of APR testing protocol.

The APR recognition is based on the technical recyclability of Siegwerk’s ink innovation for PET bottle labels. It only recognizes the submitted sleeve structure as meeting the most challenging test conditions and strictest guidance criteria and not necessarily the bottles using the sleeves as those bottles would need to be tested to demonstrate their own conformity with the so-called Critical Guidance Protocol for Clear PET Articles with Labels and Closures. This protocol is a result of a multi-industry consensus of key issues related to the recycling of postconsumer PET bottles intended to sustainably improve the quality of recycled bottles. “Meeting APR’s critical guidelines is a truly significant step in demonstrating the overall recyclability of the submitted sleeved product, a crystalized PET shrink sleeve printed with our washable ink technology consisting

of SICURA UV/LED flexo ink and AQUANTUM Alkali Strippable Primer", adds Alina Marm, Head of Circular Economy Hub at Siegwerk. "It is a good example for our 'Design for Recycling' approach under which we develop innovative ink technologies to facilitate high-quality recycling e.g. by allowing easy deinking while keeping full performance during the use phase." Siegwerk is constantly working on new sustainable ink technologies and functional formulations to improve packaging recyclability and enable new circular packaging applications.

To read more about APR and the association's guidelines please visit: https://plasticsrecycling.org/

Learn more about Siegwerk's circularity & sustainability approach here.

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