

World Star Packaging Award for Recycling Innovation

From PET flakes directly to 100 percent rPET preforms

Ansfelden, 22 May 2019 - The world's first XTREME Renew Flakes to Preform System, which directly produces new, food-grade 100 percent rPET preforms from recycled PET flakes in a single process step, was recently presented with a World Star Packaging Award in Prague. EREMA, SIPA, Kyohei Industry and Suntory, four companies involved in developing the system, are delighted to receive the award for this unique example of a closed plastic loop.

The World Star Packaging Award recognizes outstanding packaging solutions from around the world that set international standards for the packaging industry thanks to their design or the way they are manufactured. And that is exactly what the recycling machine manufacturer EREMA achieved in cooperation with SIPA, the Italian manufacturer of PET packaging solutions, as well as the plastics recycling company Kyohei and the beverage company Suntory, both based in Japan.

Four pioneers successfully bundle their know-how

The joint development of the process was initiated in 2014 by Kyohei Industry and Suntory. The award winning process is based on the combination of EREMA's proven VACUREMA[®] bottle to bottle technology which has been enhanced for this application with SIPA's XTREME Renew Preform Production System. This plant network produces new, food-grade PET preforms directly from PET flakes. Having now been in operation at Kyohei Industry in Kasama (Japan) for almost a year, the Flakes to Preform System not only outputs preforms with impressive quality values, but also delivers unique ecological and economical performance. The annual production capacity of this plant is 300 million containers. The customer for this output is the internationally active Japanese drinks manufacturer Suntory.

The VACUREMA[®] part of the plant decontaminates the flakes and increases the viscosity of the input material, which is then melted and filtered. The food-grade melt is then fed directly into the XTREME injection moulding machine supplied by SIPA. With this system, a further melting process (i.e. the melting of the rPET pellets, which is necessary in conventional processes) is no longer required. This in turn eliminates the risk of yellowing and the formation of volatile organic compounds. Bottles made from these preforms therefore differ significantly in their appearance to

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other 100 percent rPET products. "If the quality of the washed flakes is right, the inline preforms don't need to shy away from being compared to injection-moulded virgin products," says Christoph Woess, Business Development Manager for the bottle applications at EREMA.

Beneficial in both ecological and economic terms

The combination of four process steps - decontamination, IV stabilization, melt filtration and injection stamping - in one system reduces energy consumption by 30 percent compared to conventional systems. CO2 emissions are also reduced by 25 percent and are therefore significantly lower than with conventional PET bottle production from rPET raw material. Since no rPET-Pellets are produced, additional dryers and storage areas are no longer necessary, resulting in lower costs.

"Our cooperation shows that combining the expertise of plastics recycling companies, machine manufacturers and brands makes a functioning circular economy possible", say the people representing the four participating companies, pleased about the successful implementation of this award-winning project.

Photo:



From the left: Pierre Pienaar (President World Packaging Organisation), Michael Heitzinger (Managing Director EREMA GmbH), Gianfranco Zoppas (President Zoppas Industries Group/SIPA), Christoph Wöss (Business Development Manager Application Bottle, EREMA), Eiichi Furusawa (President Kyoei) und Munehiko Takada (Chief Specialist at Packaging Material Department, Suntory).

EREMA Group

The companies EREMA – with the two business units POWERFIL and KEYCYCLE – 3S, PURE LOOP, UMAC and PLASMAC are part of the EREMA Group. In addition to subsidiaries in the USA, China and Russia, the group of companies operates a further 50 agencies on all five continents to provide a reliable network for implementing tailor-made plastic recycling solutions for customers all over the world. In total, around 550 people now work for the Austrian company group based in Ansfelden near Linz.

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