

PRESS ARTICLE

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RJ Corp in India implements Sidel's aseptic PET technology to combine dairy and juice filling on the same bottling line



Varun Beverages Ltd, part of RJ Corp group, one of the largest franchises for PepsiCo Inc. globally, has installed Sidel's Aseptic Combi Predis™ in its newly established plant in Punjab, India. This pivotal project aims to expand PET bottling capacity and provide production flexibility for the private label milk brand Cream Bell as well as Pepsi's Tropicana juice range. By choosing the new aseptic dry preform sterilisation technology, RJ Corp is commercialising its liquid dairy products (LDP) in PET for the first time in India.

Since the early nineties, the privately owned Indian company RJ Corp has made itself a multinational powerhouse with thriving businesses in beverages, fast food restaurants, retail, ice cream, dairy products, healthcare and education. Through its operating company Varun Beverages Ltd., the group is one of the largest bottling partners for PepsiCo in the world, currently holding 36 plants on the Indian subcontinent and in Africa, and producing carbonated soft drinks, water and hot-fill juices as well as LDP.

When production flexibility matters

With Indian consumers looking more and more for nutritional beverages, the market keeps shifting towards so-called "better-for-you" drinks. To remain competitive in light of this trend, RJ Corp decided to diversify its portfolio and put more emphasis on its 100% juices with pulp and ultra-high temperature (UHT) LDP, thus gaining more production flexibility to switch product categories easily. "Managing both juices and dairy products on the same PET packaging line flexibly was essential for us, and we could make it happen only by producing in aseptic," says

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Mr. R.J.S. Bagga, Director Technical & Operations at RJ Corp. “High-level food safety and hygiene standards were must-have features to answer Pepsi’s demanding quality protocol as well as to pass internal and external validations.” To face these challenges, RJ Corp decided to go with Sidel’s Aseptic Combi Predis, including dry preform sterilisation. They were convinced that it is a very safe and easy-to-operate solution while visiting a French copacker that has used and trusted this technology to handle both juices and milk for more than 10 years. This technology, approved by the FDA for low-acid production since 2017, allows the beverage producer to switch easily and safely between four UHT milk flavours (white UHT milk, coffee, chocolate and mango) and various kinds of juice recipes (i.e. orange delight & 100% orange juice with pulp, mixed fruit delight and 100% mixed fruit juice, guava, apple delight and 100% apple juice, and lychee delight) on the same line. This represents a major turning point for the companies in India, which were previously producing juices in PET bottles with the hot-fill process and milk in cartons.

Up to 200 hours of continuous production

The investment in Sidel’s Aseptic Combi Predis marks two major achievements for RJ Corp in India: not only is this the company’s first step into aseptic PET bottling, but also its first experience with dry preform sterilisation. Employing the injection of hydrogen peroxide (H₂O₂) before the oven, Sidel’s patented Predis technology requires no water consumption and can reduce the use of chemicals significantly. This is a lighthouse project for PepsiCo Inc. worldwide regarding the processing and bottling of its high-acid products – the Tropicana juices. The Aseptic Combi Predis also features a similar dry sterilisation for caps, Capdis™, as it was very important to optimise the cleaning process and the handling of the caps themselves to avoid deformation and ensure tightness between the cap and the bottle.

“RJ Corp chose Sidel because of our long-standing expertise in PET and aseptic technologies. Their new line allows for up to 200 hours of continuous production without any stoppages for cleaning, keeping the production running steadily without any compromise on product quality. Moreover, the equipment is easy to manage, and the operators find its functions intuitive and easily accessible,” says Rohit Sawhney, Sales Director for Sidel India.

Optimised and efficient aseptic PET packaging line

In addition to the Aseptic Combi Predis, the complete line at RJ Corp in Punjab is equipped with a very competitive and flexible End of Line. It features the seamless shrink-wrapper VersaFilm Access, offering the best combination of production quality, performance and price at medium speed. It also includes the automatic and safe PalKombi layer-by-layer palletiser working with a steady low-level pallet infeed and allowing easy access and control. To understand its line operations and maximise Overall Equipment Effectiveness, RJ Corp also invested in Sidel’s Efficiency Improvement Tool (EIT®). This modular and scalable software provides the most significant performance indicators, reports and analyses, based on live and historical data, to



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better understand line flow, uncover sources of efficiency loss and achieve in-depth performance evaluation. It monitors quality, losses, consumption, accumulation and traceability, and interfaces with inspection devices and business systems.

To make the most of this line, specific training was delivered to enable all RJ Corp technicians to get the right understanding of aseptic PET packaging, including the Hazard Analysis Critical Control Point system (HACCP), and thus avoid any risk of contamination or detect root causes efficiently in case it happens. Since its implementation and validation, the line has been working successfully with an output up to 36,000 bottles per hour. Overall, it expands production capabilities in terms of volume as well as a higher number of SKUs.

Ensuring packaging performance across the supply chain

Traditionally, in India, milk is packaged in pouches, glass bottles or cartons. By choosing Sidel's aseptic PET packaging technology, RJ Corp has widened packaging options for its LDP products. The brand-new PET bottle assures high food quality standards and outstanding customer experiences, along with PET being a cost-efficient and sustainable material. During the implementation of the packaging line, Sidel also shared its experience in PET packaging and helped design the new PET bottle, enabling the same shapes and caps to be used for both Cream Bell UHT milk and the Tropicana juices. The cap size for all bottle formats is 33 mm, which is a common width for LDP, but quite uncommon for juices. As a result, Sidel's packaging experts developed and designed an iconic bottle shape in three formats – 200 ml, 500 ml and 1 L.

All of the bottle shapes and formats have been qualified internally. They were submitted to Finite Element Analysis (FEA) and on-site validations prior to industrial production in order to ensure the bottles' strength and performance across the supply chain. Sidel also designed specific preforms to reach optimised bottle weight in order to withstand the dry preform sterilisation technology and avoid any thermal stresses on the bottle. Produced in white monolayer barrier PET, the new packaging ensures a shelf life up to nine months for UHT milk. Furthermore, all the transparent Tropicana juice bottles passed the demanding PepsiCo validation protocols.

Taking into account the good experience and satisfaction with Sidel's complete aseptic packaging solution installation in Punjab, Varun Beverages Ltd. again chose Sidel for the exact same scope of supply for a different plant, located in Central-Eastern India.

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Sidel is a leading provider of equipment and services solutions for packaging beverage, food, home and personal care products in PET, can, glass and other materials.

With over 40,000 machines installed in more than 190 countries, we have nearly 170 years of proven experience, with a strong focus on the factory of tomorrow with advanced systems, line engineering and innovation. Our 5,500+ employees worldwide are passionate about providing solutions that fulfil customer needs and boost the **performance** of their lines, products and businesses.

Delivering this level of performance requires that we stay flexible. We continuously ensure we **understand** our customers' changing challenges and commit to meeting their unique performance and sustainability goals. We do this through dialogue and by understanding the needs of their markets, production and value chains. In turn, we apply our solid technical knowledge and smart data analytics to ensure lifetime productivity reaches its full potential.

We call it **Performance through Understanding**.

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