

THREE: 18
 IN DETAIL

Protect Performance with Multilayer Preforms

Renzo Imperia, General Manager, RETAL Italy Emilie Chassagnard-Perreau, Commercial Manager, RETAL France Massimo Quarin, Commercial Manager, RETAL Italy



Leading food and beverage brands understand the importance of protecting their product. Packaging has a major role to play in environmental issues and product safety, with the strict demands of global brands pushing ever-more innovative solutions that protect their product, their consumers and their brand.

The packaging industry-wide trends of light-weighting and sustainability come together most prominently in the beverage sector; bottled water, both still and sparkling, is a particularly hot topic across consumer and professional media, so creating solutions that reflect these trends is a key driver for food and beverage brands and the packaging manufacturers that serve them.

Multilayer technology addresses these trends and delivers performance-lead packaging solutions across the food and beverage markets. With exceptional barrier efficiency, a strong sustainability focus and the capability to utilize up to 100% recycled PET, multilayer technology is lighter, stronger and safer than competing alternatives.

Global packaging solutions company RETAL offers a complete range of PET preforms, closures, containers and films, including an IP-free hotfill preform solution that supports CSR goals by drastically reducing CO₂ emissions in transport. RETAL has been active in the increasingly-important multilayer preforms market since 2003, when it introduced the first of six multilayer machines in its RETAL France facility. Today, RETAL offers multilayer solutions across Europe, with market-leading equipment from the most respected suppliers operated by highly skilled experts.

Emilie Chassagnard-Perreau, Commercial Manager at RETAL France, says, “As the major supplier of multilayer solutions in France and Europe, we have acquired extensive know-how in multilayer technology. Multilayer is the technology to protect; protect the product and the environment. The objective is to compete with the performance of glass bottles while keeping the advantages of plastic: lighter weight and reduced carbon footprint. Depending on the type of barrier proposed, we can sensibly avoid loss of CO₂ for high carbonated water and beverages, the entrance of oxygen for sensitive produce such as juices and protect oxidation and taste deterioration; we can also combine both barrier CO₂ + O₂ for sensitive products such as beer and propose very long shelf life for products like syrup. RETAL understands the product sensibility and customer requirements and we can adapt the barrier type and formulation proposed.”

BETTER BARRIER

Renzo Imperia, RETAL Italia General Manager, continues, “Virgin and standard PET is a material permeable to gases and light. Multilayer preforms can solve almost all these issues. With multilayer, which in this case refers to three layers, we have two exterior PET ‘skins’ sandwiched with an internal layer of barrier. Oxygen is. This barrier can be created for protecting beverage from rays of light, visible and not visible, from oxygen, which is almost always an enemy for protecting against the oxidation caused by oxygen entering from outside to the inside of container and to CO₂ loss, conserving the original characteristics of beverages containing gas.” Imperia gives a further explanation. “Thus, to improve PET performances of an inadequate external ‘skin’, in terms of barrier, it could be joined, using the inner layer, with special additives which can be also catalyzed for transforming it into an active and passive barrier. By adopting technical solutions, it is possible to increase

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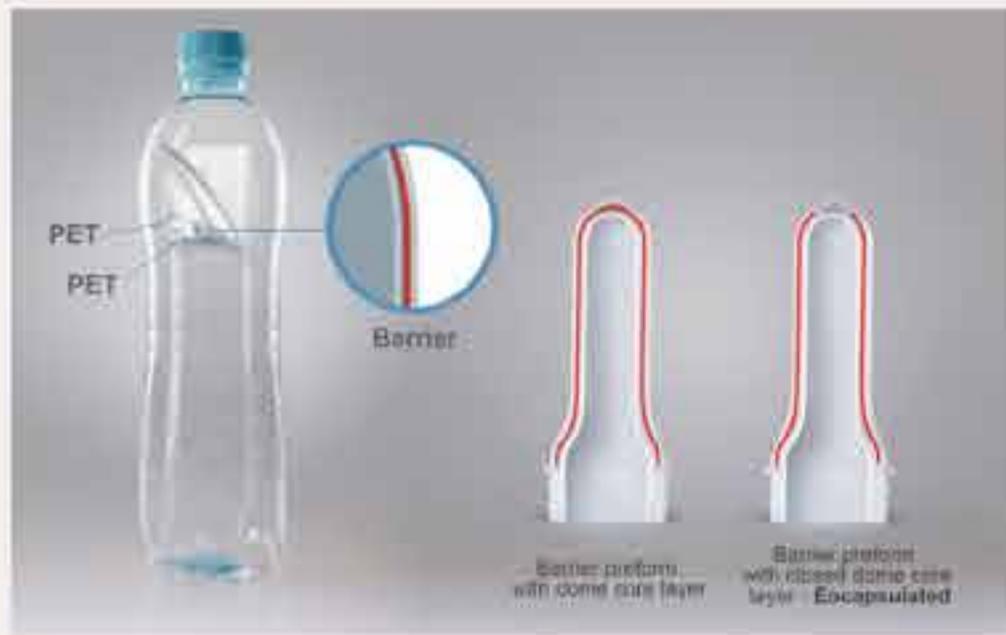
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its barrier properties, in case of sparkling water specifically regarding CO₂ retention, this could be obtained adding nylon with a different formulation and percentage for creating a very strong passive barrier and, where needed, also active barrier. Through this better barrier performance, for example with sparkling water, we can extend the shelf-life for a longer period, meeting brand needs for exporting product in other countries, where a good portion of time is spent in transport.” The multilayer structure provides a more effective barrier to CO₂ than a traditional monolayer blend; multilayer solutions represent a massive growth opportunity for beverage brands including dairy, thanks to the improved and diversified barrier performance that addresses the practical and environmental concerns of brands and their consumers.



CONTINUAL DEVELOPMENT

RETAL is active in R&D to ensure its innovative multilayer solutions stay at the forefront of this niche yet fastgrowing market. RETAL's recent testing on a 0.5l mineral sparkling water preform with passive barrier showed key characteristics of weight, stretch ratio and wall thickness of the bottle all impressively improved compared to mono-layer preforms.

With advanced laboratory tests, it is possible to measure the efficiency of barrier through quantifying oxygen entered through a container wall, with the container cleaned of oxygen in advance. So, measuring the concentration of oxygen after a certain period, it is possible to fix how appropriate the barrier is for its application. Essentially, this means that RETAL's R&D capabilities and equipment allow the company to be in tune with its customers' demand in advance of being released to market. Imperia states, "The 'green vision' of the market is perfectly reflected in the forwardthinking development, investment and capabilities of RETAL worldwide. As a technology-driven business, we strive to stay in close contact with our customers and understand the wants and needs of the end consumer."

Massimo Quarin, RETAL Italia's Commercial Manager, adds, "RETAL is answering the needs of the market with our multilayer solutions. Protecting the product is imperative; we have been investing considerable amounts in ensuring our technology stays leading the market today and tomorrow. Globally-exported products need to stay optimal as long as possible. So the specific challenges of the leading carbonated water brands are high in our priorities. With our multilayer preforms, carbonated water keeps its CO₂ levels stable for the minimum period expected by the customer, keeping the quality of the product within – and the brand's market share – protected for longer."

INVEST IN EXCELLENCE

The dynamic technology that is utilized in multilayer capabilities ensures this growing niche market continues to be successfully served. RETAL is continually investing and staying in close collaboration with the producers of the advanced equipment that make it possible. Chassagnard-Perreau concludes, "We have been leading the multilayer preforms market in France and across our active European markets since 2003, so we have considerable experience in what is a relatively new technology. Our six state-of-the-art multilayer systems allow us to develop, create and supply multilayer preforms that meet the strict demands of our global beverage brand customers."



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