

CONTRIBUTED ARTICLE

The Technology Push and Consumer Pull Leading to Innovation in Tetra Pak Caps and Closures

Pietro Martini, Manager, Primary Packaging and Openings at Tetra Pak discusses how his team drives developments in caps and closures using consumer insight and technology innovations.

Caps and closures are one of the unsung heroes of the packaging world. We might not spare them much thought, but ultimately they are a major contributor to keeping beverages fresh and safe. And importantly, they must be user friendly – enabling easy opening and closure, pouring or drinking experiences.

As with all developments at Tetra Pak, innovation of caps and closures is done with the consumer and our customers in mind. In fact, this innovation has led us to have a portfolio of more than 40 closures on offer across the globe – the largest in carton packaging. We develop these closures based on global market insight and ethnographic research to ensure that the caps and closures meet a consumer need. However, consumer innovation is also built on the understanding that beverage makers demand highly competitive, cost-efficient solutions. This means that the consumer pull can sometimes take the lead on our innovation process; other times, it's a technological achievement that drives innovation.

The DreamCap™, launched in 2011, is a recent example of a cap that was developed to meet the growing consumer demand for drinking on the go. Consumers want packages that deliver convenience and support their hectic lifestyles - in response to global demographic shifts driving changes in the ways, times and places in which people want to enjoy their beverages.

Therefore, we developed DreamCap to deliver comfort, convenience and style to those consumers who want to enjoy liquid dairy products (LDP) and juice, nectars and still drinks (JNSD) on the go.

Part of the innovation process for the DreamCap was watching how consumers interact with packages and obtaining their feedback on packages and prototypes. This aided in ensuring that we designed a cap that consumers felt met the needs of their hectic lifestyles and enabled them to drink from the package easily on the go.

As a result of our consumer research sessions we found that most people drink straight from a carton package in one of three ways: some suck the beverage out, pour it into their mouth or pull the liquid from the package using their mouth. Once we knew this, we could then innovate to find the size of the closure that was needed in order to provide an optimised drinking experience for everyone. After many tests we found that an opening with a diameter of 26 millimetres provided the best size to provide a comfortable drinking experience.

The large 26 millimetre opening fits the mouth and gives the consumer control of the flow of the liquid by allowing them to 'pull' the liquid at the rate and quantity that they want to consume. Subsequently, opening and closing with DreamCap is easy as it has a one-step screw cap which provides fully re-sealable convenience. When the sealed screw cap is turned, it breaks the internal safety seal and allows the consumer to have access to the

CONTRIBUTED ARTICLE

beverage inside. However, as it is screw cap consumers also have the luxury of being able to reseal it if they don't finish the beverage inside.

Delivering innovations such as DreamCap is not without its challenges. Specifically, we had a huge obstacle to overcome in fitting the large closure on a small package, between 200ml and 500ml, in order to provide a package that was convenient for on-the-go consumption but also poured well. In order to accommodate the large closure and ensure we still maintained optimal functionality for consumers, we had to trial many different packaging combinations with the closure fitted in different ways.

The solution we found was that the opening could no longer just be on the top of the package but also had to straddle the side. We found that positioning the closure like this provided the best functionality for consumers. In order to do this effectively we had to utilise our Pre-Laminated Hole (PLH) technology to create a seal that went across the opening at the top and side of the package to ensure that the beverage stays fresh and is safe. The seal is then broken when the cap is turned for the first time.

Challenges with developing DreamCap, such as how to have a large cap on a small package, required us to develop about 50 different prototypes and this was after initial computer simulated modelling was applied to various designs. Once we had a prototype we were happy with, we then field tested it to gain customer feedback before the global launch.

Whilst DreamCap meets consumer demand, it also, like all our packages, is made with our customers in mind. Meeting consumer needs it delivers value to customers as they are offering their customers what they want and often offering them something different in comparison to other beverage producers. In addition, DreamCap provides opportunities for customers to reach new consumers all with low investment as it can be produced on existing Tetra Pak equipment.

Sometimes technological breakthroughs enable us to develop new caps and closure solutions. LightCap™ is a very good example of this. This screw cap, launched in 2011 is aimed at the drink-at-home market and uses the minimal amount of plastic to keep costs at a minimum and improve environmental performance. We created a new version of the LightCap by developing and combining two technologies that we had been working on – Pre-Laminated Hole (PLH) and Direct Injection Moulding Concept (DIMC). DIMC technology – already used by Tetra Pak customers for milk – allows the base of the cap neck to be moulded as flat as possible to the underside of the packaging material, providing the maximum pouring area. Combining this technology with PLH-based packaging materials, which provides a film seal for the opening and improves shelf life by approximately 30%, makes LightCap ideal for the ambient distribution of milks and oxygen sensitive products.

However, combining PLH and DIMC on a package created challenges that we needed to overcome, and this required our team to innovate to create a solution. Prior to combining these technologies, a hole was punched in our packages for the opening and then the protective seal was put on afterwards. However, we needed to ensure we kept costs down and limited the use of plastic for our customers while not compromising on safety. As such, we came up with a solution whereby the hole is punched on the package at the same time as the plastic is injected into the hole to seal it.

CONTRIBUTED ARTICLE

While developing LightCap to be environmentally friendly and keep costs low, we also created it with the largest pouring area possible. This enhances the pouring performance and reduces spillages which benefits consumers, particularly kids and older consumers. Lastly, in combining DIMC and PLH, producers have the opportunity to utilise the most cost-efficient way to apply a screw cap to an aseptic carton package. It also allows customers to broaden their product offering to include new beverage types that they might not have offered before, such as special milks.

DreamCap and LightCap are just two of the innovations that are serving the needs of our customers and consumers. Both required years of development and many prototypes, and both demonstrate the key drivers of innovation for us in this space: customer value and consumer demand.

So, next time you are drinking from a carton or pouring your juice spare a thought for the cap and closure and all the innovation that has gone in to creating them. It is a hero; keeping beverages safe, providing a comfortable and convenient experience for consumers and providing value to beverage producers through enabling them to enter new markets and stand out from the crowd.

###

ABOUT TETRA PAK

Tetra Pak is the world's leading food processing and packaging solutions company. Working closely with our customers and suppliers, we provide safe, innovative and environmentally sound products that each day meet the needs of hundreds of millions of people in more than 170 countries around the world. With almost 22,000 employees based in over 85 countries, we believe in responsible industry leadership and a sustainable approach to business. Our motto, "PROTECTS WHAT'S GOOD™," reflects our vision to make food safe and available, everywhere. More information about Tetra Pak is available at www.tetrapak.com

MEDIA CONTACTS

Linda Bernier

Tetra Pak
Cell: +39 348 145 4229
linda.bernier@tetrapak.com

Annie Kasmai

Cohn & Wolfe for Tetra Pak
Tel: +44 20 7331 5399
annie.kasmai@cohnwolfe.com