

Tethered Caps

Are you ready?



Manufacturers, legislators and consumers demand trends, can vary around the globe depending on different factors. Novembal and its commercial department explain and share here their thoughts and views about trends applicable to plastic caps and closure technologies by answering a few common questions about this topic.

Packaging Industry Trends

At Novembal, we can clearly identify 3 different axes or trends related to the packaging industry:

- **Health:** consumer focus on the impact of beverages on health has increased to include concerns over sugar, content and portion size. A growing interest in smaller single-serve pack sizes and nutrient rich shot formats represents an opportunity to grow capacity. It is true also, based on the most recent request from our customers, that the family sizes have seen an increase in consumption and demand during the last months due to the pandemic. As many families are staying at home, the consumption behavior changes.
- **Sustainability:** legislators, manufacturers and consumers demand greener packaging. Easy to recycle bottles are well placed in consumers' top of mind and has led to positive consumer action. A growing use of recycled materials demonstrate also the commitment of the sector to engage with a circular economy model. The sustainability trends are applicable to the bottle AND the plastic caps. Regulatory agencies are setting important sustainability goals that will be in place by 2024, according to the EU's SUPD (Single Use Plastics Directive) and, these include design requirements demanding that caps are connected to bottles to address the issue of caps becoming marine litter.
- **Quality and Innovation:** we cannot have an increase in beverages consumption and demand without quality and innovation. It is needed to maintain package's integrity, protect the drink inside and ensure a top consumer experience while minimizing the Total Cost of Ownership.

Frequent Q&A

- **Aside from tethered caps, which caps and closures innovations Novembal prioritizes the most, and why?**

Aseptic products solutions are also a priority for Novembal.

As consumer demand raises for healthier products, so does the need for capping solutions to protect their integrity throughout the supply chain.

At Novembal we have capping solutions that are able to meet today's challenges for all different types of sensitive beverages including liquid dairy products, plant-based drinks, juices and nectars.

With our linerless closures for aseptic products, such as the **Novaqua 33 A and Novaqua 38 A**, we can help bottlers achieve their objectives in terms of:



- **Product Integrity & Product Safety**
 - Cap tightness with **specific double seal** closure design
 - Neck finish with no need for aluminum foil
 - Visible tamper evidence (optional shrink sleeve compatible)
 - **Great Consumer Experience:**
 - Easy to open & reclose
 - Horizontal storage in fridge with no leakage after opening
 - Safe drinking surface fully covered by the cap
 - **Closure flexibility**
 - Packaging **ready to convert** with **Tethered Cap SUP Directive**
 - **Most of the closures can be tethered**
 - Full compatibility for over-cap
- **Where do you see the market in 10 years?**

The plastic caps and closures market is expected to witness high growth over the next few years thanks to the projected increasing demand from the beverage industry. In addition, tamper-evident closures can help address the rising concerns about product quality and safety while playing a crucial role in extending the shelf life of products and helping to preserve their organoleptic properties. Finally, caps can also be a factor in brand and product differentiation, further ensuring the growth of the closures market.

New products are constantly coming on the market and different packages and formats are needed; the way people are shopping is changing and consumption is increasing. In parallel, the concerns about environmental issues are critical. Therefore, global producers need to adapt quickly to these changes to ensure they maintain or even increase their market share.

There are numerous ways in which suppliers can meet those needs, but only a few specific solutions will really build a competitive advantage. To make the most of this situation, we continuously strive to provide innovative thinking and world-class expertise in developing customized solutions to meet our customers' specific requirements.

EU Tethered Cap Directive

- **What products do you offer/plan to offer in the tethered caps segment?**

With the recently issued regulations in mind, we decided to introduce solutions that enable bottle drink manufacturers to switch to tethered closures with minimum disruption to their operations. As an illustration of this approach, our tethered solutions for screw type closures offer carbonated soft drinks, water and sensitive products players the possibility to use existing neck finish.



Our tethered solution for snap type closures has been created for bottled water producers. Sustainability and consumer convenience were high on our agenda when we introduced it to the market. Its internal lip ensures tightness with the neck while end users close the bottle by simply pushing the top of the cap on it. It delivers great performance on high speed lines and offers good design flexibility.

Other customers might opt for our mixed design cap. This combines the tightness offered by the screw type closures, making it typically a solution for premium products.

Most of our closures can be tethered, therefore the offer and possibilities for the beverages producers is quite wide and flexible.

- **How challenging will it be for the industry to meet the technical requirements of the EU tethered cap directive? (E.g., minimum force of separation, no cap spinning after opening.)**

Across the value chain, we all share a common objective: on top of being the best technical solution, tethered caps need to improve the consumer experience, to be sustainable, and not to degrade the perception of PET.

Making a closure that meets the tethered requirements is not really that difficult. The real challenge is maintaining the sustainability gains made over the last several years through light-weighting while meeting the separation force requirements. Lightweight closures were designed to have as little material (HDPE) as possible in the design while still ensuring packaging integrity. The EU directive and the accompanying requirements are not focused on light-weighting. Most lightweight closures in the market today will be heavier once the tethered feature (that meets the separation force requirement) is added.

- **What trials are you undertaking to ensure you meet these technical requirements?**

Several test methods have been defined by CETIE and we have created a few of our own. Most important, perhaps is the consumer experience. So, all the tests that we do are followed up with input from consumer panels consisting of diverse groups with different profiles and experience.

- **What are the advantages and disadvantages of slitting patterns with caps?**

The real advantage is that some design features are very easily implemented using existing production tooling by the closure manufacturer and the resultant closure is, in some cases, fully compatible with the bottler's existing cap application equipment, requiring no change for the bottler. A disadvantage, if there is one, is that until the consumer becomes familiar with the concept of the tethered closure, some slitting patterns may be confusing to some end users.

- **How will the legislation affect the continued lightweighting of caps? Which type(s) of tethered caps will be best suited to keeping the weight down?**

As previously mentioned, light-weighting could be significantly impacted.

When you add back 0.1 grams to the closure and even more back to some bottle finishes and, multiply that time hundreds of billions of closures and bottles, the impact is huge. This is a great opportunity for all parties to provide solutions that are as light as possible to keep the impact as minimal as possible. Slit tethered features that use existing lightweight screw closure designs are BEST suited for keeping the weight down while ensuring product integrity, but these are the same closures that will have the hardest time meeting all tethered requirements. And let's keep in mind something that is also important, a potential negative impact on consumer experience.

- **Where does the responsibility lay in educating consumers about the importance of keeping caps tethered?**

The main purpose of the tethered cap is to avoid closure leakage in nature and more specifically in oceans.

When the bottles are collected for recycling, closures are easily recycled since they are separated by density during the bottle flake washing process.

In Europe, Tethered caps will be mandatory by 2024, but in other regions the development is driven by either Eco design approach or for standardization purposes.

Different pioneers in this arena had foreseen the opportunity of closure and bottle light weight with tethered cap and have developed it at wide scale with good customer experience on the affordable market segment for water.

In terms of reach to the consumers, brands and retailers are definitively on the front line for their education and acceptance of this new feature. As solution providers and innovators, we are committed to playing a key role in our industry's continued transformation. We are taking our share in the Tethered cap specification and standards definition with CETIE. Within the Sidel group, Novembal will continue to innovate in the areas of Packaging especially in North America. Also, with our network of solution providers, we have developed the qualification protocols in order to ensure specification compliance as well as positive customers experience.

- **Will there be any other impacts from the legislation that have been largely overlooked up until now?**

Consumers are not perceiving the cost and the technical constraints generated by the conversion from regular closures to Tethered. Cost is about new tooling for closures, adaptation parts and in some cases, preform neck modifications.

Various levels of answers are to be expected from our industry.

Some indeed will have a minimalist approach and limit their changes for compliance purposes only. This could lead to non-fully optimized solutions generating slight weight increases. On the opposite side, some will take advantage of full redesign and weight optimization.

Tethered caps are clearly a disruption in our customers plans for packaging, especially since the time frame to do so is short in a context that is now becoming tougher.

- **Is legislation around tethered caps likely to be replicated throughout the rest of the world? If so, which regions are likely to be next?**

Currently, the Directive applies only to Europe. However, there are similar discussions going on in California, attempting to ban the production and sale of single-use plastics as well as to recycle 75% of single-use plastics by 2030. This is linked to the pressure caused by China's plastic waste import ban while other countries are closely following the developments imposed by the Single Use Plastic Directive. Once the new standard for tethered caps has been defined, some global brand owners may also think about implementing them worldwide in the medium term, potentially expanding this opportunity beyond European borders.

For more information, please contact our commercial department:

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