



Packaging Vents

Case Study

Anulom Vilom: “Breathe In, Breathe Out” for Excellence in Packaging



Situation

In yoga, Anulom Vilom is a “breathe in, breathe out” technique that keeps the body in balance. In agrochemical packaging, “Anulom Vilom” is a container design from Mullackal Polymers Pvt Ltd. – one of India’s leading manufacturers of caps and blow-molded containers for the agrochemical industry – with a breathable GORE® Packaging Vent that prevents deformation and leaks. In 2014, Mullackal collaborated with Gore to develop the “Anulom Vilom” package design for Agrinos India Pvt Ltd. and its organic liquid bio-fertilizer, Optimus™ HYT. The solution was developed in less than one month and was awarded the 2014 INDIASTAR Award for Packaging Excellence.

Challenge

Agrinos, a global producer of organic soil nutrient enhancers, was making its entry to the India marketplace with Optimus™ HYT, an organic liquid bio-fertilizer. Agrinos India approached Mullackal with multiple requirements:

- The packaging must be produced in 400 ml and 800 ml sizes.
- The design and labeling must be unique, consistent with the company’s “Innovative by Nature” slogan, and consistent with the high-quality image of this high-value product.
- Venting must be integrated to release the high levels of off-gassing produced by this organic formulation.
- The container must prevent collapse, bloating and leaks during transport and storage.
- The project must be completed quickly to meet the launch deadline for Optimus™ HYT.

Mr. Ramesh Pillai, Director of Mullackal, had a multi-year working relationship with Gore and believed the GORE® Packaging Vent,

in induction liner form, could satisfy Agrinos India’s requirements of a container that could release gases while maintaining its integrity. He had prior experience using this same product for other customers, and it had proven effective in solving high-outgassing issues like those Optimus™ might face. Additionally, the pulp induction liner had previously proven successful in Mullackal’s hot-melt gluing processes.

Solution

A consultation with Gore sales associate Sandip Kumar quickly confirmed Pillai’s recommendation of GORE® Packaging Vents. Kumar noted, “These vents have excellent roll-off, so even highly concentrated or viscous formulations won’t cling and clog the GORE™ Membrane. This ensures the reliable high airflow that’s needed for high-organic formulations such as Agrinos’ Optimus™ HYT.”

“We had a proven technology partner in Gore – their people and products, we know we can rely on. When you have all those elements in place, it is not surprising that excellence is the result.”

*Ramesh Pillai
Director of Mullackal*

Pillai added, “The induction liner allows gases and air to continuously move in both directions through the vent, so if a vacuum or pressure build-up forms in the container, it’s quickly released before it can cause a collapse or a bloat or a leak. Going forward, this offers potential for using a bottle of lighter weight, which would result in saving both weight and materials costs.”

Agrinos was highly enthusiastic about the result: The cap’s high-performance container and vented cap would ensure the integrity of both product and package from manufacturing line to end user, while the cap’s trend-setting design would support Agrinos’ high-quality image.

Agrinos has had no reports of container deformation or leakage since the first “Anulom Vilom” container left the production line, and the solution has been well received in the market. The 2014 INDIASTAR Award capped off a highly successful project.

“We are gratified at the INDIASTAR Award,” said Pillai, “because it represents a wonderful collaboration that satisfied a customer need very promptly and very successfully. We have talented people here at Mullackal. We have an innovative customer – Agrinos was open to the best leading-edge design solutions we could offer. And we had a proven technology partner in Gore – their people and products, we know we can rely on. When you have all those elements in place, it’s not surprising that excellence is the result.”



The Gore Pulp Induction Liner (CM6CA017LB) with cap thread venting is the best solution for Mullackal Polymers Pvt Ltd. because of its easy integration without re-designing of the cap and reliable leak protection.

Superior Breathability to Maintain Container Integrity

GORE® Packaging Vents provide high protection for containers of agricultural, industrial, and household chemicals and cleaners. Engineered for high performance despite changing altitudes and temperatures, GORE® Packaging Vents:

- allow air and gas molecules to pass through a highly breathable ePTFE membrane
- continually equalize pressure so containers won't bulge or collapse
- maintain airflow even after contact with high-viscous or low surface-tension liquids
- prevent leakages and provide a barrier to environmental dust and dirt

The Gore Advantage

Gore is a materials science company whose passion for performance drives real-world change. Well-known for waterproof, breathable GORE-TEX® Fabrics, the company develops a wide range of products engineered specifically for challenging applications that require durable performance where other products fail. Around the globe, Gore delivers customized venting solutions for containers of industrial, household and agricultural chemicals. Engineered with the latest materials and technology, Gore's vents are backed by years of research and testing to help extend product life and enhance reliable performance – all to ensure that they meet the application demands of today's powerful chemicals and cleaners. Headquartered in the United States, Gore employs approximately 10,000 associates in 30 countries worldwide.

Learn more at gore.com.

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