



ALKOvent™

customised venting solution
for every day usage



The SEALutions Company

ABOUT MEYER SEALS®



The SEALutions Company

Established in 1879 and with over 140 years in the packaging industry, Meyer Seals® has developed into a world leader in the closure lining industry, with sealing inserts for both aluminium and plastic closures. Meyer Seals® supplies its products to customers in over 80 countries across all continents, covering an extensive range of applications Food, Pharmaceutical, Agricultural Chemical, Motor Oils, Beverage and Cosmetics.

Meyer Seals® highly technical products are recognised throughout the industry for their quality, reliability, efficiency and trustworthiness.

PRESSURE FAMILY



ALKOzell™

ALKOflex™

INDUCTION FAMILY



ALKOsafe™

ALKOseal™

ALKOflex™

GLUE FAMILY



ALKObond™

ALKOglue™

TECHNICAL



ALKOvent™

GLOBAL LOCATIONS

With two 'state-of-the-art' manufacturing facilities located within Europe and another one located in Thailand, along with strategically located sales offices in India, China, Thailand and the UK, Meyer Seals® is well positioned to meet the global industry needs.



Head Office
Germany

Manufacturing
Germany x 2
Thailand x 1

Sales Offices
India
China
Thailand
UK

ALKOvent™ – the technical liner

ALKOvent™ liners equalize pressure inside containers preventing them from distorting, allowing the airflow, while providing a barrier for liquids and dry products.

WHAT CAUSES A CONTAINER TO DISTORT AFTER FILLING?

- Contents that contain bleach, oxidizing agents and other gaseous components, can cause 'bloating' and potentially bursting of the containers.
- Contents that contain solvents or oils absorb oxygen thus causing 'panelling/collapsing' of the containers.
- Hot filled product (38° to 83°C / 100° to 180°F) will shrink when cooled causing the container to 'panel/collapse' if the container is sealed prior to cooling.
- Falling temperatures can cause under-pressures and collapse, extreme temperature changes accelerate container deformations
- Altitude changes create pressure differences, increasing altitude creates over-pressure within the container, leading to bloating. Decreasing altitude creates under-pressure, causing the container to collapse.



Releasing Gases



Consuming Gases



Rising Temperatures



Falling Temperatures



Increased Altitude



Decreased Altitude

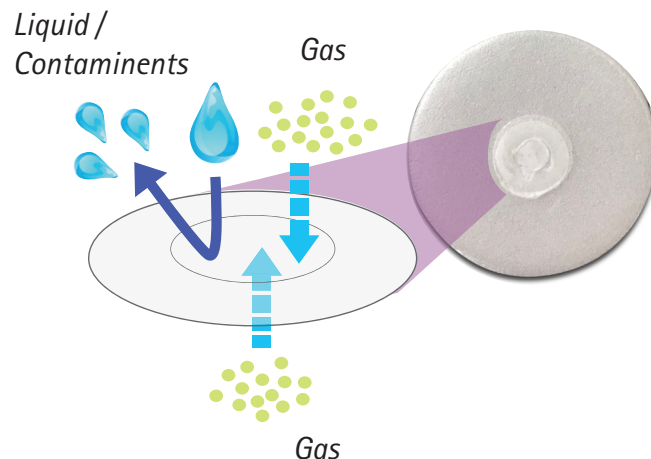
BREATHABLE PACKAGING



Creating packaging that allows the product to breathe without leaking, that's **ALKOvent™**

Meyer Seals® have developed **ALKOvent™** to answer the concerns when products are either hermetically sealed with an **ALKOflex™** or **ALKOsafe™** induction liner, or pressure sealed with **ALKOzell™** where there is a requirement for the system to release or consume gases that would eventually cause the plastic containers to bloat or panel/collapse, ultimately **ALKOvent™** prevents the container from splitting.

A specially designed membrane that has been developed and is fitted by Meyer Seals® on line. **ALKOvent™** is the latest innovation from Meyer Seals® which is fixed permanently within the liner that allows any gas that is accumulated within the container or is absorbed from outside of the container to freely flow between the product and environment, whereas the liquid product contained remains safely sealed within the container.



ALKOvent™ allows bi-directional free passage of gases, therefore equalising the pressure in the container, without allowing any contamination to enter into the container

The benefits of **ALKOvent™**

- Facilitates pack weight reduction
- **ALKOvent™** is bi-directional and vents in both directions
- Elimination of complaints and returns through spillage
- Ensuring excellent on shelf appearance of the containers
- Cost reduction



ALKOvent™ flex

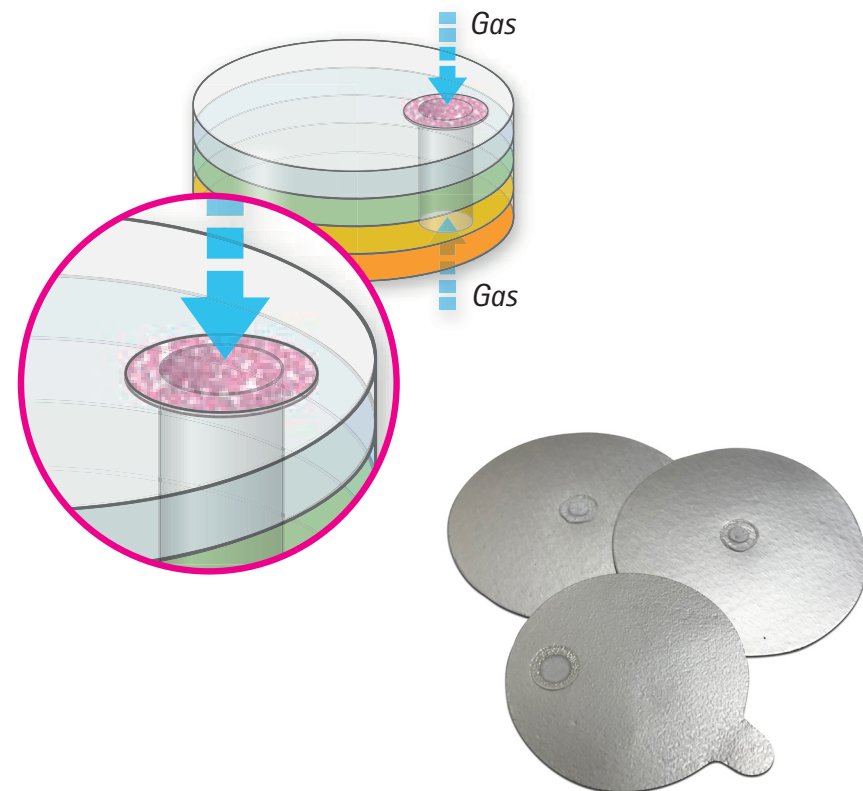
ALKOvent™ flex unique vent equalises pressure within the container on both high surface tension hydrophobic liquids as well as low surface tension oleophobic liquids.

ALKOvent™ flex ensures the consumer has tamper evident packaging that allows the product contents to breath without leaking.



ALKOvent™ flex

Composition



ALKOvent™ customised venting solution *for every day usage*

ALKOvent™ safe



ALKOvent™ safe is a two-piece wax bonded liner that is fitted into the closure and is either glued in place, or as a friction fit behind a retention ring.

ALKOvent™ safe has a secondary re-seal liner which is available in either a foam or as a board backing material to meet different customers' requirements.

ALKOvent™ safe can be induction sealed to the container in both true weld or peelable versions.

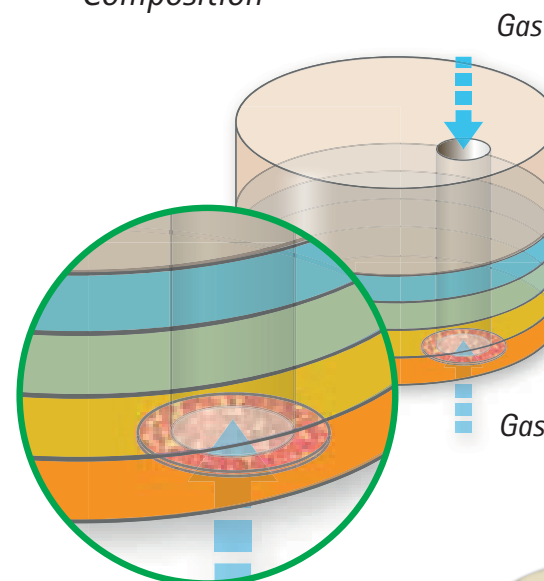
Post the induction sealing process the primary liner is sealed to the container and the secondary liner remains as a reseal inside the closure.

Gas passes through the unique bi-directional valve and equalises the pressure in the container by the gas being absorbed or expelled via the threads on the closure.



ALKOvent™ safe

Composition



ALKOvent™ zell

ALKOvent™ zell liners are fitted snugly into the closure and are either glued in place, or as a friction fit behind the thread pattern.

Gas passes through the unique bi-directional valve and equalises the pressure in the container, either by the gas being absorbed or expelled through a hole in the closure or directed via the threads on the closure.



ALKOvent™ zell

Composition



ALKOvent™ customised venting solution *for every day usage*

ALKOvent™ technical specification

DESIGN AND CARRIER VARIANTS	
Design and Carrier Variants	<p><u>AS PRESSURE SEAL</u></p> <ul style="list-style-type: none"> – after opening the jar, the diaphragm remains in the closure: <p>Basis ALKOvent™ zell</p> <ul style="list-style-type: none"> – ALKOvent™ zell <ul style="list-style-type: none"> – pressure compensation takes place through a hole in the closure, which allows the gas to escape – ALKOvent™ zell (fleece) <ul style="list-style-type: none"> – with vented fleece – fits all closures, no need for a hole in the closure
	<p><u>FOR INDUCTION SEALING</u></p> <ul style="list-style-type: none"> – the diaphragm will be removed after opening: <p>Basis ALKOvent™ flex</p> <ul style="list-style-type: none"> – pressure compensation takes place through hole in the closure, which allows the gas to escape <p>Basis ALKOvent™ safe</p> <ul style="list-style-type: none"> – pressure compensation takes place through carrier/substrate, therefore no need for a hole in the closure



ALKOvent™ customised venting solution *for every day usage*

ALKO**vent**™ Summary of Benefits

- ALKO**vent**™ ensures that containers are securely sealed whilst allowing pressure equalization, without the risk of leakage.
- The most important application is in the technical area of products that release or absorb gases. ALKO**vent**™ prevents package distortion due to expansion and contraction of the container.
- Containers and closures utilising ALKO**vent**™ can be significantly light weighted with a thinner wall, bringing significant cost reductions.
- ALKO**vent**™ is a specially designed membrane developed and exclusively fitted by Meyer Seals® online during the production process, guaranteeing functionality of both the liner and the vented membrane.
- ALKO**vent**™ eliminates customer complaints and product returns through prevention of spillage/leakers and removes any potential environmental hazards.
- ALKO**vent**™ will prevent any distortion of the container, therefore maximising retail brand appearance and encouraging repeat purchases by consumers having confidence in the integrity of the product's packaging.



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