Global Customer Support


Bladders can be tailored to specific tire curing applications using Rhein Chemie Additives' innovative compounds. Rhein Chemie Additives delivers superior quality products and services backed by decades of industry-wide experience and technical expertise. And this pays for you.

ISO 9001 Certification

We have introduced a quality management system based on the ISO 9001 standard, which covers design, development, production, installation and service, associated with the products we market.

Environmental Awareness

We are part of the “Responsible Care” initiative, which is the commitment of the chemical industry to continually improve on all aspects of health, safety, and environmental performance (HS&E). Therefore, we ensure:

- Non-contaminating products
- Rational use of energy
- Minimal scrap generation

High-performance Rhenoshape® Curing Bladders

With its Rhenoshape® curing bladders and comprehensive portfolio of Rhenodiv® release agents, Rhein Chemie Additives offers tire manufacturers a one-stop solution across the complete tire manufacturing process.

Rhein Chemie Additives’ reliable experience with major international tire manufacturers provides a knowledgeable perspective for bladder applications and solutions to technical problems.

Our bladder production plants are located in Little Rock, United States, Burzaco/Buenos Aires, Argentina, Porto Feliz, Brazil and Qingdao, China, and supply to customers all over the world.

Rhein Chemie Additives, an independent bladder manufacturer with competence from raw materials to bladder performance – globally.
Global Customer Support
Our worldwide sales organization provides short response times to meet customer expectations in:

- Bladder fitment calculations and recommendations
- Bladder design for new tire applications
- On-site technical support
  - Industrialization of new bladders
  - Process improvements

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RHEIN CHEMIE ADDITIVES. FOR A WORLD IN MOTION.
Higher Productivity

Rhenoshape® high-performance bladders are manufactured under the strictest control of design and R&D to ensure their optimal consistency in quality, performance and bladder life.

Meeting Demands

The push for increased productivity in the tire industry has led to higher curing temperatures and shorter curing times. This extra demand inflicts greater stress on bladder life. Consequently, tire companies have experienced an increase in scrapped tires due to failures, outdated bladder quality, and longer press downtime due to frequent bladder changes. Rhenoshape® bladders ensure a long bladder life and enable premium quality of the final products.

Enhanced Physical Properties

Rhenoshape® bladders have additional comparative advantages that will provide customers with a more efficient curing process. Our improved design in bladder thickness and our innovative thermally conductive compound formulation offer better heat transfer, which results in shorter curing cycles, consistent uniformity, and longer bladder life.

Pre-treated Bladders

A common problem with new bladders is the adhesion of their surface to the tire. It is standard practice in the industry to apply an arbitrary silicone release agent to reduce this initial tackiness. The first tires cured with these bladders tend to stick to them, shortening bladder life and even pulling them off their clamping, thus increasing overall costs. Rhein Chemie Additives offers semi-permanent and permanent bladder coatings as well as pre-treated bladders. The coatings reduce tire defects and increase overall bladder life, while also eliminating bladder tackiness.

Bladder Surfaces

Additionally, Rhein Chemie Additives’ innovative bladder venting/etching designs and surface finish help to alleviate trapped air from the form and subsequently create a better tire appearance, along with less scrap rates.
Increased Productivity
Longer bladder life
- High-quality thermally conductive compound
- Strict process controls

Shorter cure cycles
- Better heat transfer through superior design and special compound

Superior curing performance
- Flexible bladder wall
- Consistent quality and uniformity

Exceptional Cost Benefits
- Reduced press downtimes
- Reduced scrap rates

Better Tire Finish Appearance
- Innovative bladder venting design and surface finish help release “trapped air”

Easy Unfolding of New Bladders
- Coating on the inside

Wide Product Range
Rhein Chemie Additives manufactures over 200 different bladder sizes ranging in rim diameter from 10” to 48”. They cover industrial, small farm, motorcycle, passenger, light truck, large truck, agriculture, and OTR tire sizes produced with compression and injection molding presses ranging from 36” to 60” in width.

The extensive product line of Rhenoshape® curing bladders, encompassing bias and radial tire applications, is suitable for Bag-O-Matic, Krupp, NRM/Autoform, Autolok, and Kobe presses.

We are constantly developing new sizes and bladder models to suit the needs of tire manufacturers. Rhein Chemie Additives also produces bladders using customer-supplied molds.

Strict Specifications and Controls
Thorough process controls allow us to produce to exacting quality standards.

Each step of the bladder production process is verified: from supplier selection, raw materials, mixing, compounding, extruding, and slug preparation to bladder design, curing, coating, packaging, and storage.

Rhein Chemie Additives covers all variables.

Our bladders are subjected to dimensional, RRO, rheometric, Mooney viscosity, and flexometric controls.
**PERFORMANCE RECOMMENDATIONS**

**Storage**
- Avoid the following ozone sources to prevent degradation of the butyl compound that bladders are made of.
  - Light/Ultraviolet light (store in a dark place)
  - Circulated air (store in bags or sealed containers)
  - Running electrical equipment (electric arcs form ozone)
- Store in cool and dry places; heat is negatively affecting rubber compounds

**Bladder Fitment**
Bladder size fitting cured tire size avoids extra stress or buckles on the bladder.

**Installation and Application**
Proper bladder installation including appropriate clamping rings, good vacuum and smooth slipping in and out of the tire avoids early product failure.

**Steam and Steam Ports**
Exact direction and deflection of the steam port does not allow steam to hit the sidewall, where excessive concentrated heat may erode the bladders’ inside surface.

**Pre-Curing**
Fully warm up bladder before curing starts. For pre-inflating during warm-up, let bladder outside diameter not exceed tire sidewall outside diameter to prevent asymmetrical deformation.

**Process Water**
Monitoring of metal ion (e.g. copper) or excess chlorine content in process water avoids oxidation of bladder compound.

**Curing Temperature**
Lower curing temperatures prolong bladder life; 175–195 °C are usual values.

**Lubricant**
Choosing the right pre-treatment and lubricant improves bladder performance and bladder life. It facilitates smooth bladder inflating and uniform bladder expansion and prevents bladder chipping.
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6 High-performance Rhenoshape® curing bladders

PERFORMANCE RECOMMENDATIONS
Our technical advice – whether verbal, in writing or by way of trials – is given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. It does not release you from the obligation to test the products supplied by us as to their suitability for the intended processes and uses. The application, use and processing of the products are beyond our control and, therefore, entirely your own responsibility. Should, in spite of this, liability be established for any damage, it will be limited to the value of the goods delivered by us and used by you. We will, of course, provide products of consistent quality within the scope of our General Conditions of Sale and Delivery.