HEGGEL®

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NEWSLETTER

HEGGEL® EL

March 2025

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Reviving a Classic: Rubber Lining

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Engineered Rubber Linings for Long-Lasting Industrial Defense

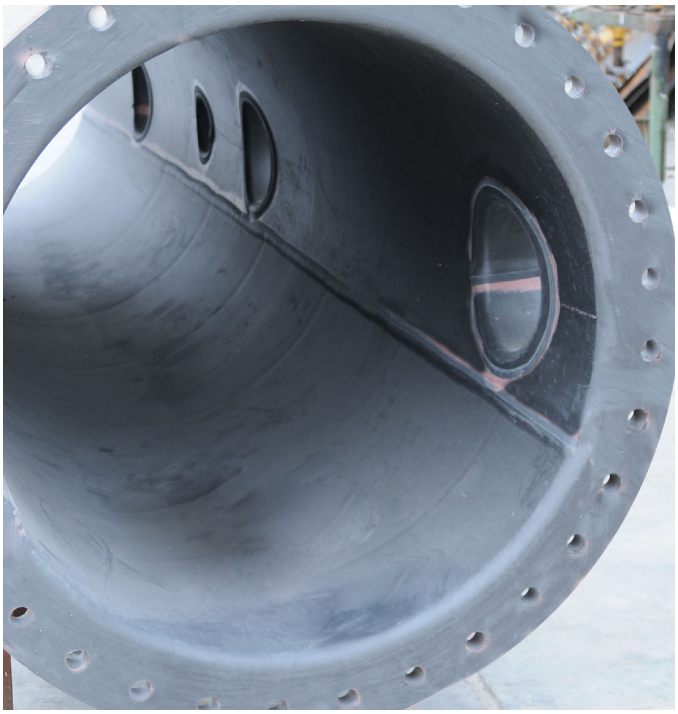
> Rubber Lining: A Reliable Standard in Industrial Surface Protection

Rubber lining has stood the test of time as one of the most dependable methods for protecting industrial equipment and infrastructure in highly demanding environments. Even as new materials and technologies emerge, rubber lining remains a preferred choice, not only for its proven track record but also for its ability to adapt to modern industrial challenges.

One of the key reasons behind rubber lining's enduring role is its unique combination of protective properties. Its **chemical resistance** allows it to withstand corrosive substances that would quickly degrade metal surfaces, making it ideal for tanks, pipelines, and reactors in chemical processing. At the same time, rubber lining offers **high mechanical strength and durability**, standing up to constant wear and abrasion from solids and slurries, crucial in mining, mineral processing, and water treatment facilities. The material also demonstrates **excellent thermal stability**, ensuring consistent performance even under fluctuating or elevated temperatures, which is essential in industries where both hot and cold cycles are routine.

Moreover, rubber lining provides **natural impact absorption and flexibility**, reducing the risk of damage from mechanical shocks, vibrations, or pressure variations, an advantage that enhances the safety and longevity of industrial systems.

As industries face increasingly complex operational demands, rubber lining continues to evolve, offering a flexible and reliable solution for protecting critical equipment and infrastructure. What once began as a traditional method for corrosion protection has now advanced into a sophisticated system that addresses a variety of industrial challenges. Modern rubber linings are designed not only to resist chemical attack and mechanical wear but also to withstand extreme temperatures and fluctuating operating conditions, all while extending service life and minimizing maintenance. This evolution has positioned rubber lining as more than just a barrier, it has become a multi-functional protection system that adapts to a wide range of industrial applications, from routine operations to the harshest environments.



Adapting to Every Need: Standard and Specialized Rubber Lining Solutions

To respond to this diversity of industrial challenges, rubber lining solutions are offered in a range that moves seamlessly from standard applications to highly specialized protections. This adaptability is driven by a thoughtful combination of materials, curing processes, and mechanical properties that enable rubber linings to meet specific functional requirements.

For instance, **soft rubber linings** provide the flexibility and resilience needed for equipment subject to constant movement, vibration, or impact, such as chutes, hoppers, and pipelines, where both protection and adaptability are essential. In contrast, **hard rubber linings** deliver greater rigidity and chemical resistance, making them suitable for environments involving aggressive chemicals or where high structural integrity is required, such as storage tanks and reactors.

Additionally, **curing methods** add another layer of versatility: **pre-vulcanized linings**, cured before application, offer efficient solutions for simpler surfaces, while **self-vulcanizing and non-vulcanized linings**, cured on-site, ensure a precise fit for complex geometries and customized designs.

Complementing these options is a wide portfolio of **rubber compounds**, including natural rubber and specialized synthetics such as butyl, chlorobutyl, neoprene, and EPDM ,each tailored to specific needs, whether for chemical resistance, high-temperature stability, or mechanical performance.

Altogether, this comprehensive range of rubber lining solutions allows industries to address both standard protection needs and unique, high-risk scenarios, reinforcing rubber lining's role as an essential and adaptable tool in modern industrial protection strategies.

Recognizing the critical importance of such versatile protection, rubber lining forms an integral part of the HEGGEL product basket, ensuring that our clients benefit from a complete and unified range of solutions to safeguard their assets against chemical, mechanical, and thermal challenges.

HEGGEL EL: Complete, Reliable, and Ready for Industry

With the launch of **HEGGEL EL**, we are proud to offer a comprehensive, high-performance rubber lining product family that complements and extends our existing solutions, making **HEGGEL** a one-stop provider for advanced industrial protection. Whether for standard corrosion and wear protection or custom-engineered linings designed to address extreme chemical, mechanical, or thermal challenges, **HEGGEL EL** enables our customers to maximize equipment life, reduce maintenance costs, and improve operational safety. This launch underscores **HEGGEL**'s commitment to staying at the forefront of industrial protection technologies, ensuring that no matter the challenge, we have a solution ready.

> HEGGEL EL Product Range: Tailored to Industrial Realities

The strength of **HEGGEL EL** lies in its versatile design and tailored engineering, offering a variety of rubber linings optimized for different industrial scenarios. The portfolio is built around two main material categories, soft rubber linings and hard rubber linings, each engineered to meet specific technical challenges while ensuring long-term protection.

Soft Rubber Linings, Flexible and Durable

- Designed for equipment exposed to mechanical stress, vibration, impact, and abrasive media, offering high elasticity to absorb shocks and adapt to dynamic movements while maintaining durable protection.
- High-temperature resistance for thermal processes and hot chemical storage, available in both pre-vulcanized and non-vulcanized formats.
- Self-vulcanizing bromobutyl options for superior chemical resistance, allowing on-site curing for seamless integration.
- Abrasion resistance for handling slurries, solids, and materials under high mechanical wear.
- CSM-based and EPDM-based formulations for chemical and environmental resistance, including oxidizing agents, steam, UV, and weathering.
- Diffusion resistance to act as barriers against permeating gases and aggressive media

Hard Rubber Linings, Chemical and Structural Shields

- Designed for applications requiring maximum chemical resistance and dimensional stability, offering rigid and robust protection.
- Provide enhanced durability and longer service life, even under continuous exposure to aggressive media.
- Feature higher hardness that contributes to dimensional stability and improves abrasion resistance and mechanical strength.
- Offer elevated thermal resistance, maintaining protective properties even in environments involving fluctuating or high temperatures, ensuring reliable long-term performance in demanding industrial conditions.
- Include graphite-filled hard rubbers, designed for environments requiring conductivity control and resistance to chemically aggressive substances.
- Include diffusion-resistant hard rubbers, acting as highly durable barriers in severe chemical processes where gas permeation must be prevented.

Curing Technologies: Adapting to Every Project

To ensure effective installation and optimized performance, **HEGGEL EL** provides three curing methods, adapted to project complexity:

- **Pre-vulcanized Linings —** Fully cured in advance for rapid application and minimal downtime.
- **Self-vulcanizing Linings —** Cured on-site for customized, seamless solutions, especially in geometrically complex environments.
- **Non-vulcanized Linings —** Applied uncured and hardened in place, perfect for large-scale and highly customized installations.

HEGGEL EL: Advanced Chemical Compounds

Each **HEGGEL EL** lining is crafted from advanced rubber compounds, carefully selected for their specialized performance in demanding industrial environments:

- **Bromobutyl:** Offers outstanding chemical and thermal resistance for aggressive environments, including acids, alkalis, and solvents; ideal for gas scrubbers, chemical tanks, and reactors exposed to both chemicals and high temperatures.
- **Chlorobutyl and Butyl:** Provide excellent gas diffusion resistance and long-term durability in harsh chemical environments, suitable for chlorine processing, chemical storage, and pipelines, with chlorobutyl being especially effective against oxidizing agents.
- **EPDM:** Delivers strong thermal and chemical resistance, especially against steam, hot water, UV, and oxidizers; widely used for outdoor and high-temperature applications, though not suitable for concentrated acids or hydrocarbons.
- **CSM:** Especially resistant to oxidizing agents, ozone, UV, and aggressive chemical mixtures, with additional resistance to diluted Hydrofluoric Acid (HF), making it suitable for scrubbers and HF recovery systems.
- **Graphite-filled formulations:** Enhance chemical resistance and provide conductivity control for static dissipation in reactors and vessels handling flammable or aggressive substances.
- **Natural Rubber:** Known for high abrasion resistance, elasticity, and mechanical flexibility; ideal for impact-heavy applications like slurry pipelines and chutes, though limited in chemical resistance.
- **Natural Rubber blended with SBR (NR-SBR):** Improves abrasion and wear resistance over pure natural rubber, suited for severe mechanical applications in mining, mineral processing, and high-wear transport systems.

Seamless Integration: HEGGEL EL Adhesive System for Lasting Performance

An essential part of the **HEGGEL EL rubber lining system**, our **HEGGEL EL Adhesive and Primer solutions** are engineered to secure the highest levels of durability and performance in every application. More than just providing strong adhesion, these advanced adhesives are designed with enhanced chemical and thermal resistance, ensuring that the bond between the rubber lining and substrate remains intact even under aggressive conditions. This becomes especially critical in overlap and seam areas, where failure risks are typically highest. By integrating this adhesive technology within the **HEGGEL EL** system, we ensure that the entire lining solution, from adhesion to surface, performs as one unified shield against chemical attack, mechanical stress, and thermal exposure.

HEGGEL EL is not only a natural extension of HEGGEL 's existing protective technologies but also a future-proof solution for industries that demand performance, flexibility, and durability, all from one trusted source. By combining advanced rubber compositions with tailored engineering and application methods, **HEGGEL EL** brings a new level of reliability and adaptability to industrial rubber linings. Whether for corrosion, chemical attack, abrasion, or extreme temperature resistance, this product family ensures that operators can find the right solution for every critical application.

With **HEGGEL EL**, industries can confidently protect their most valuable assets, extend equipment life, and reduce costly downtime, all while meeting the highest safety and performance standards.

As part of **HEGGEL**'s broader mission to deliver comprehensive surface protection, **HEGGEL EL** stands as a key element in supporting industrial operations facing today's and tomorrow's toughest challenges.