



You Build, We Protect!

NEWSLETTER




HEGGEL® FRP Linings

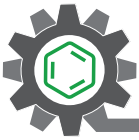
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INSIDE THIS ISSUE:

HEGGEL FRP Lining Systems
Delivering Superior
Industrial Protection

-  **Versatile Protection for Substrates**
-  **Designed to Excel in Harsh Environments**
-  **Lightweight Yet Highly Durable**



◆ Glass Fiber Reinforced Lining Systems

FRP Linings: A Standard for Industrial Protection

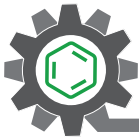
Fiberglass Reinforced Plastic (FRP) linings, also known as Glass Fiber Reinforced Linings, provide essential surface protection against corrosion, chemical exposure, and abrasion. These linings are specifically designed for industries that demand long-lasting, robust

solutions in harsh environments. Whether in chemical processing plants or wastewater facilities, FRP linings deliver reliable and durable protection, reducing maintenance and extending the service life of equipment and infrastructure.



HEGGEL FRP Linings offer versatile protection for both steel and concrete substrates, excelling in environments exposed to chemical, mechanical, and thermal stress. These systems provide exceptional resistance to a wide range of chemicals, sealing surfaces in structures such as reinforced concrete, recovery basins, and liquid storage facilities. Whether applied

indoors or outdoors, **HEGGEL FRP Linings** are highly durable, making them ideal for use in high-stress environments, including as flooring solutions. Each lining system is carefully engineered with resin options—Vinyl Ester, Furan, Phenolic, or Epoxy—chosen based on specific process requirements, ensuring optimal performance, temperature resilience, and long-lasting durability.



Key Components

The strength and durability of **HEGGEL FRP Linings** stem from the synergy between fiberglass reinforcement and a polymer matrix. These components work together to deliver exceptional structural support, crack resistance, and protection against chemical and environmental damage.

Fiberglass reinforcement, with woven or chopped glass fibers, provides structural strength and rigidity to the lining system. It also offers high tensile strength and resistance to cracking.

The **polymer matrix** in **HEGGEL FRP linings**, composed of various resins such as epoxy, vinyl ester, phenolic, or furan, acts as a critical binder. These resins not only hold the glass fibers together but also provide a wide spectrum of chemical and corrosion resistance. The flexibility in resin selection allows **HEGGEL FRP Systems** to be tailored for specific applications, ensuring optimal protection against aggressive chemicals, extreme temperatures, and corrosive environments.



Unmatched Protection for Industrial Applications

Corrosion Resistance

HEGGEL FRP Linings offer exceptional resistance to a wide variety of corrosive environments, making them ideal for industries exposed to aggressive chemicals, acids, gases, and solvents. Their broad chemical resistance ensures long-lasting protection even in the harshest conditions.

Durability

By combining high-quality fiberglass with a variety of polymer resins—such as epoxy, vinyl ester, phenolic and furan—**HEGGEL FRP Linings** deliver superior mechanical strength, impact resistance, and wear protection. This allows them to endure heavy-duty industrial use and withstand mechanical stress, abrasions, and harsh environmental factors.



Flexibility

HEGGEL FRP Linings are highly adaptable, suitable for a wide range of substrates including steel, concrete, and other industrial materials. Their versatility ensures reliable performance across multiple applications, from storage tanks and pipes to reactors and flooring solutions. Additionally, in tropical environments where tough working conditions and challenges such as those posed by Vinyl Ester can arise, **HEGGEL FRP** offers a range of resin options tailored to avoid these difficulties. This flexibility allows for more efficient and durable installations, ensuring consistent protection and long-term performance even in the most demanding climates.

Low Permeability

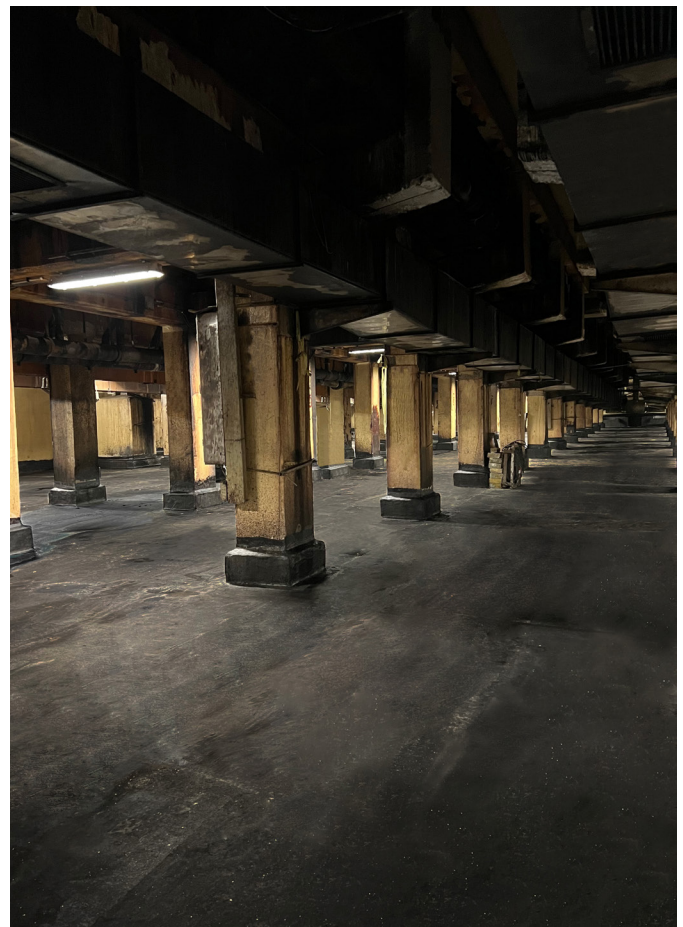
With an impermeable barrier that prevents the penetration of chemicals, moisture, and corrosive agents, **HEGGEL FRP Linings** safeguard underlying substrates. This protection is critical for extending the lifespan of infrastructure in chemically aggressive environments.

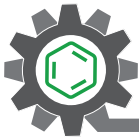
Lightweight

Despite their exceptional strength and resilience, **HEGGEL FRP Linings** remain lightweight compared to other protective systems like metal coatings or thick concrete liners. This not only makes them easier to install but also reduces structural load, enhancing overall system efficiency.

Eco-Friendly

HEGGEL FRP Systems are designed with environmental sustainability in mind, offering VOC-free solutions that contribute to a cleaner, safer work environment. By eliminating volatile organic compounds (VOCs), these systems help reduce harmful emissions during application, ensuring compliance with stringent environmental regulations and promoting healthier conditions for workers. Beyond their chemical resistance and durability, **HEGGEL FRP Linings** deliver long-lasting performance with minimal environmental impact, aligning with industry trends toward greener, more sustainable practices without compromising on protection or efficiency.





Superior Protection for Critical Industrial Assets

HEGSEL FRP Lining Systems are engineered to provide unmatched protection for vital industrial equipment, defending against aggressive chemicals, extreme environmental conditions, and mechanical stresses. Their application across various industries ensures enhanced durability and reliable performance, even in the most demanding operational

environments. Designed to safeguard storage tanks, sumps, containment areas, pipes, reactors, and flooring exposed to highly corrosive chemicals and solvents, **HEGSEL FRP Linings** are essential for maintaining the integrity and longevity of industrial infrastructure.



Industry Applications

Wastewater Treatment

HEGSEL FRP Linings prevent corrosion and chemical attacks in wastewater tanks, clarifiers, and piping systems, ensuring long-term protection in facilities exposed to harsh, chemically aggressive environments.

Oil & Gas Industry

These linings are integral to protecting storage tanks, acid effluent ponds, neutralization ponds, and pipelines from the corrosive effects of crude oil, gas, and other chemicals, making them a critical solution for ensuring operational safety and efficiency in the oil and gas sector.



Power Plants

HEGSEL FRP Lining systems are widely used in water treatment plant (WTP) flooring, cooling towers, and acid and alkali tanks—such as those containing sulfuric acid and sodium hydroxide—as well as other critical infrastructure. These systems offer superior resistance to the corrosive and abrasive environments commonly found in power generation facilities.



Mining

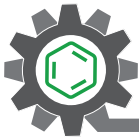
HEGSEL FRP Linings are engineered to withstand the harsh abrasion and corrosive environments found in mining operations, refineries, and processes where acids and alkalis are used, such as in purification and refining as electrolytes. These linings provide robust protection for critical equipment and infrastructure, ensuring operational continuity while minimizing maintenance downtime.



Chemical Plants

In chemical plants, **HEGSEL FRP Linings** offer vital protection against highly aggressive chemicals, solvents, and acids, preventing corrosion in reactors, process vessels, and containment areas. Their chemical resistance and durability ensure the safety and efficiency of operations where exposure to harsh substances is routine.





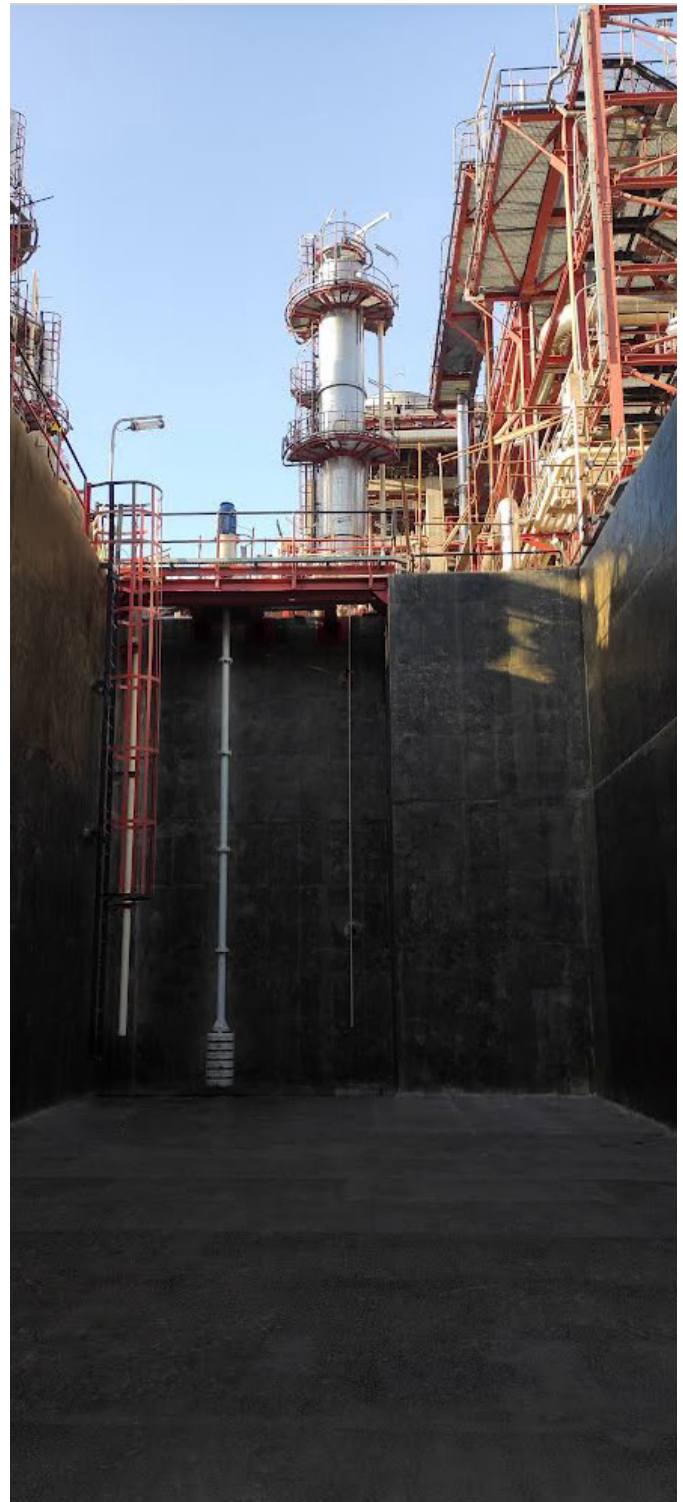
HEGSEL FRP Linings Lasting Values

HEGSEL FRP Linings provide exceptional long-term protection that significantly reduces the need for frequent maintenance. This extended lifespan ensures consistent performance over time, making them a top choice for industries requiring reliable protection against corrosion, wear, and harsh environmental conditions.

The durability of **HEGSEL FRP Linings** also contributes to their cost-effectiveness. With less maintenance and fewer disruptions, companies benefit from lower operational costs and long-term savings, making these linings an excellent solution for those seeking both quality and efficiency in their operations.

Moreover, **HEGSEL FRP Linings** are engineered to preserve products for extended periods. Their outstanding shelf life ensures that they remain effective even after prolonged storage, making them ideal for industries that require dependable, ready-to-use storage solutions without compromising on quality.

HEGSEL FRP Linings not only safeguard critical assets but also enhance operational efficiency by their proven performance across diverse applications, they offer industries a reliable and durable solution that meets the evolving demands of modern industrial environments.





HEGSEL Furanic FRP

- ◆ High chemical resistance against a wide range of acids and alkalis
- ◆ High adhesion strength to concrete
- ◆ Excellent temperature resistance

HEGSEL Phenolic FRP

- ◆ Superior chemical resistance against harsh environments, concentrated acids and solvents
- ◆ Excellent mechanical strength
- ◆ Electrical conductivity

HEGSEL Vinyl Ester FRP

- ◆ Excellent chemical resistance to acids, alkalis, solvents and oxidizing agents
- ◆ High adhesion strength to concrete
- ◆ Crack-bridging properties

HEGSEL Epoxy FRP

- ◆ Excellent corrosion resistance
- ◆ High temperature resistance up to 160 °C
- ◆ Good mechanical properties