



You Build, We Protect!



HEGGEL GmbH

**Innovative
Surface
Protection
Systems**



Our Philosophy...

Our business operates as a GmbH according to German standards, focusing on high quality products and continuous innovative ideas. We succeeded in becoming one of the most outstanding global producers of anti-corrosion coatings, floor coatings and composites. **HEGSEL GmbH** works hard to improve customer satisfaction through excellent service and outstanding technical solutions.

No matter what the challenge is, we help our clients to the best of our ability. Either through advising managers and engineers, or by supporting frontline workers, our responsibility is to partner with clients to convert proposals into solutions.

"Customers First" is our aspiration!

HEGGEL® GmbH

is a leading manufacturer of industrial protective coating systems, “Made in Germany”. We innovatively design and produce high-performance corrosion protection coatings, linings and floorings for different fields of application.

The properties of our products are highlighted by extraordinary chemical resistance, abrasion resistance and weatherability.

We generate a broad spectrum of polymer coating, lining and flooring products ranging amongst the highest performance properties within today’s global industry and meet our customers’ demands by offering highly efficient and cost-effective world-class solutions.

The remarkable diversity of our protective products which have been certified by independent institutes and approved for the various scopes of applications, proves the fact that **HEGGEL GmbH** perfectly fulfills a broad range of requirements and customers’ demands.

Values

Empowered by Expertise

We proudly utilize the expertise of our professional engineering team to provide high quality products and services.

Commitment to Quality

Our strict adherence to quality standards ensures the superiority of the HEGGEL coating products, approved by extensive laboratory tests.

Innovation

We adopt an innovative approach in development of product technologies with enhanced performance through interdisciplinary research.

Trust

We apply high ethical standards to create a trust-based relationship with all our partners.

Improvement

Our expert engineering team is dedicated to continual improvement of overall quality performance and development of products.

Customer Satisfaction

We are committed to customer satisfaction and hence, have a customer-oriented approach.

Environmental Responsibility

Our concern for the environment has led us to produce solvent-free products and sourcing the raw materials from responsible producers.

Categories

HEGSEL Corr

HEGSEL Coat

HEGSEL Flake

HEGSEL FRP

HEGSEL EL

HEGSEL Fix

HEGSEL Mortars

HEGSEL Tile & Brick

HEGSEL Pox

HEGSEL Flex

HEGSEL Therm



Industries

- Chemical
- Oil & Gas
- Power
- Pharmaceutical
- Food
- Pulp & Paper
- Water
- Automotive
- Electronics
- Steel
- Shipbuilding
- Aviation
- Mining

Scopes of Application

- **Storage Tanks**
 - Crude oil
 - Hydrocarbons
 - Chemicals
 - Waste water
- **Pipelines**
 - Crude oil
 - Hydrocarbons
 - Gases
 - H₂S
 - Chemicals
 - Potable water
 - Waste water
 - Special projects
- **Offshore & Marine**
 - Subsea
 - Splash zone
 - Jetty legs
 - Ballast tanks
 - Special projects
- **Floorings**
 - Anti-static
 - Clean rooms
 - Cold chambers
 - Chemicals
 - Food processing
 - Aircraft hangar
 - Special projects
- **Specials**
 - Desalination
 - FGD
 - Scrubber
 - Biomass / Biogas
 - Galvanic industry

HEGGEL[®] Corr

High-Tech Coatings Specialized for Extreme Demands

HEGGEL GmbH has developed the new generation of High-Tech corrosion resistant coatings, **HEGGEL Corr**, based on the world modern technologies in response to strong demands offering superior resistance against aggressive environments and highly corrosive conditions.

Our innovative **HEGGEL Corr** coating systems provide superior broad range chemical resistance from ambient to elevated temperature in excess of **225°C**, derived from a novel molecular structure based on the multifunctional hybridized polymer matrix in the manner of simultaneous utilization of organic and inorganic compounds.

The extended range of our High-Tech coatings, is particularly devised for special applications and extreme requirements including concentrated as well as diluted acids and alkalis at high operating temperature.

HEGGEL Corr coatings are also specifically intended for severe corrosive environments e.g. sour gas treating units, H₂S, CO₂, amines and hydrocarbon combinations.

Alongside the exceptional durability, **HEGGEL Corr** features outstanding physical properties such as phenomenal adhesion strength, abrasion and impact resistance.

HEGGEL Corr has attracted the enormous interest of industries with critical service conditions and equipment, due to its exceptional chemical, thermal and mechanical resistance besides its applicability as a cold-curing single coat system, long-term durability and being comfortable in terms of repair and maintenance, which significantly facilitates the implementation and operation and extends equipment's life cycle.

Most Noteworthy Resistances

- Spent amines rich in H₂S/CO₂
- Amines (DEA, MDEA, MEA, DGA)
- Carbon disulphide
- Molten sulphur + acidic vapour

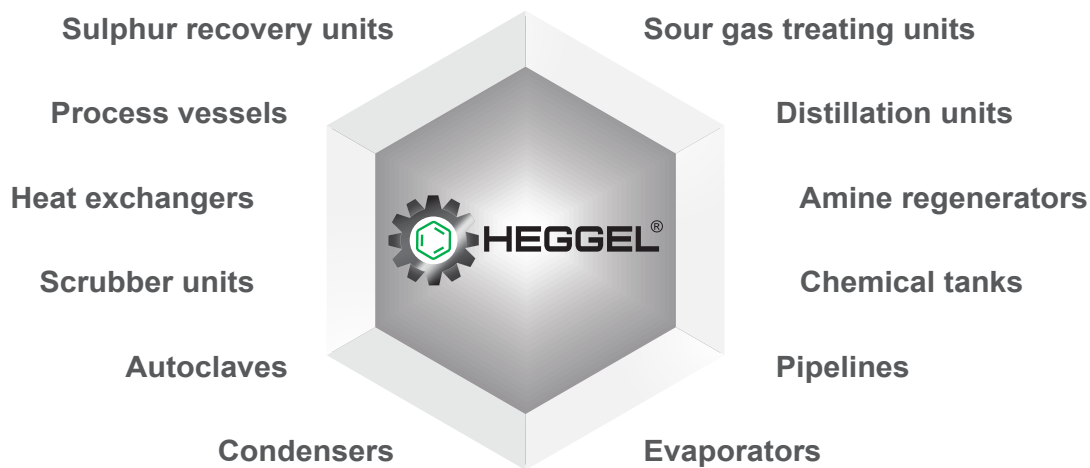
- Sulphuric acid 98%
- Hydrochloric acid 37%
- Nitric acid 50%
- Phosphoric acid 84%

- Sodium hydroxide 50-75%
- Hydrofluoric acid 70%
- Glacial acetic acid 100%
- Sodium hypochlorite

Superior Replacement of

- Rubber lining systems
- FRP linings
- Glass flake reinforced coatings
- Phenolic epoxy-based coatings
- Modified epoxy novolac-based coatings

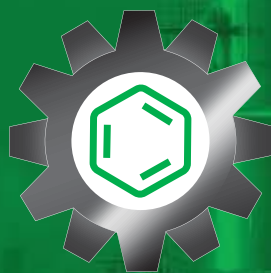




HEGGEL® Corr superior advantages

- Superior chemical resistance to a multitude of media ranging from **pH 1-14**
- Excellent immersed temperature resistance up to **225°C**
- Self-priming single coat system
- Easy application
- Easy maintenance and inspection
- Downtime reduction, due to rapid ambient cure allowing for quick on-site application
- Long-lasting impermeability





HEGGEL®

HEGGEL[®] Corr

Application References

Gas industries

Vessels

LP Gas Separators and Compressors

Power plants

Hydrazine storage tanks

Utility companies

Sulphonyl regeneration units

Reboilers

Oil & Gas refineries

Sour gas services in combination with DGA/MDEA/MEA amine environments, caustic services, sulphuric acid tanks, DGA stripper reflux drums, pipe spools carrying H₂S rich gases, injection gas compressors: Wet acid gas, lean natural gas and dry sour gas, lean MEA storage tanks, caustic disulphide separators, sour water degassing drums, reboiler vessels in DGA services, DGA amine strippers, stripper receiver, wet sour services with H₂S, DGA storage tanks, MDEA rich in H₂S, DGA contactors.



HEGSEL[®] Coat

Corrosion Prevention through Cost-Effective High-Performance Solutions

HEGSEL GmbH generates **HEGSEL Coat** protective coating systems, representing outstanding features through linking micro and nano mineral particles to a high-quality polymer matrix. This unique molecular structure results in a coating characterized by long-term durability, impermeability and extraordinary physical properties.

The combination of excellent chemical resistance and equally the ability to withstand mechanical stresses, allows **HEGSEL Coat** systems to be used for corrosion protection in a wide range of industrial processes.

HEGSEL Coat includes diverse product codes covering a wide range of chemical resistance to various organic and inorganic substances, abrasion and thermal resistance as well as excellent weatherability.

Our portfolio contains premium protective systems specialized for offshore application, which is highly corrosive due to permanent exposure to wet and salt-laden environment intensified by UV radiation.

Our extensive range of **HEGSEL Coat** products unconditionally endures abrasion and erosion, high-impact loads and all types of severe corrosion attacks of the marine environment.

One of the most remarkable features of our **HEGSEL Coat** systems is that they are free of solvents.

Detailed analysis by independent institutes proves the safety and usability of **HEGSEL Coat** in the scope of drinking water and food applications. With our extensive range of **HEGSEL Coat** products, you will not have any concerns about severe corrosion on steel and concrete substrates.

HEGSEL Coat is resistant to:

All types of water: seawater, brackish water, waste water, deionized water

Neutral salt solutions

Diluted acids and alkalis

Mineral oil, aliphatic hydrocarbons and fuels

HEGSEL Coat strengths

- Excellent corrosion protection and chemical resistance
- High durability and impermeability
- Outstanding abrasion resistance
- Thermal resistance up to 170°C
- Excellent adhesion strength
- Easy to apply in a single-coat layer
- Easy to repair and maintain
- Saving application costs
- 100% solvent-free

Approvals

- 15000 hours salt spray test
- Chemical resistance to diverse media
- Physical and mechanical tests
- Potable water approval

AWWA C210-15 approved!



**Storage tanks for
chemicals, oils and
hydrocarbons**

**Vessels and tanks for
drinking water and food**

**Marine structures:
offshore and onshore**

**Waste water ponds
Potable water tanks**

Tubes and pipelines

Steel constructions

**All kinds of production
vessels and tanks...**

HEGGEL[®] Flake

Glass Flake Reinforced Systems to Minimize Penetration

The glass flake reinforced coatings of **HEGGEL Flake** are generated with exceptional diffusion barrier properties and are widely used in a broad range of applications, particularly for aggressive environments.

Our resin-based **HEGGEL Flake** coatings, integrated with glass flakes of optimized aspect ratio, provide added protection against high temperature exposures, as well as outstanding mechanical properties.

Where corrosion is caused by vapour penetration, **HEGGEL Flake** will greatly resist through decelerating the process by incorporating glass flakes in a High-Tech polymeric matrix, resulting in a more durable protection in extreme corrosive conditions.

- Raw gas and clean gas ducts
- Heat exchangers
- Flue gas scrubbers
- Flue gas desulphurization (FGD) plants' stacks and pre-heaters
- Offshore / onshore structures and vessels
- Cooling towers
- Pressure vessels
- Storage and process tanks





HEGSEL® FRP

High- Strength Fiber-Reinforced Laminates

HEGSEL glass fiber reinforced synthetic resin laminates have been extensively used for various types of corrosive environments.

HEGSEL FRP demonstrates high temperature capabilities, thermal insulation and outstanding mechanical properties along with excellent chemical resistance.

Our **HEGSEL FRP** systems are classified according to their high-performance resin bases, including Vinyl Ester, Furan, Phenol and Epoxy, which deliver the chemical and mechanical resistance of the system whilst binding the glass fiber in the composition of laminate systems.

HEGSEL FRP products are also widely used as an impermeable sealing layer in tile / brick lining work.

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-based FRP

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

HEGSEL Epoxy-based FRP

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

Application Areas:

- Wastewater / Neutralization ponds
- Chemical storage tanks
- Containment dikes
- Ditches, trenches, sumps
- Flooring of liquid storage area
- Flooring of aircraft hangars
- Process / Treatment sites



HEGGEL® EL

Engineered Rubber Lining Solutions for Harsh Industrial Environments

HEGGEL EL offers a comprehensive portfolio of high-performance rubber lining systems designed to meet the evolving challenges of modern industrial environments. The product range includes a broad spectrum of rubber compounds such as natural rubber, bromobutyl, chlorobutyl, EPDM, CSM, neoprene, and graphite-filled formulations, each precisely engineered for optimal performance under chemical, thermal, and mechanical stress.

HEGGEL Rubber linings are available in both soft and hard rubber grades to match specific operational requirements:

- **Soft rubber linings** provide excellent flexibility, abrasion resistance, and impact absorption, while also offering strong chemical and thermal resistance.
- **Hard rubber linings** deliver outstanding chemical resistance, dimensional stability, and long-term durability, particularly in aggressive chemical and thermal environments.

HEGGEL EL supports multiple vulcanization methods to suit the scope and complexity of each project:

- Pre-vulcanized linings, cured prior to installation, provide rapid and efficient application.
- Self-vulcanizing linings, cured on-site, ensure a seamless fit to complex geometries.
- Non-vulcanized linings, cured in-situ, are suitable for highly customized and large-scale installations.

Each lining system is integrated with HEGGEL's proprietary adhesive and primer technologies. These are formulated to ensure long-lasting adhesion and structural integrity even in critical zones such as seams, overlaps, and areas exposed to high chemical or thermal stress.

HEGGEL EL Advantages

- Wide range of chemical, thermal, and mechanical-resistant compounds
- Soft and hard rubber options for performance customization
- Multiple curing technologies for installation flexibility
- High abrasion resistance and effective diffusion barrier properties
- Engineered adhesive systems for reliable, long-term protection

HEGSEL[®] EL

Application Areas



- Internal lining of storage tanks and chemical reactors
- Acid-resistant lining for scrubbers, absorbers, and gas cleaning equipment
- Chemical protection in pickling plants and acid regeneration units
- Lining for pipelines and ducting in corrosive media
- Protective lining for desalination plants and water treatment facilities
- Rubber lining of concrete and steel in wastewater and effluent treatment systems
- Rubber protection for flue gas desulfurization (FGD) systems
- Lining for process vessels in chemical processing
- Mining and mineral processing equipment
- Any asset requiring reliable protection from corrosion, wear, or thermal extremes





HEGGEL® Fix

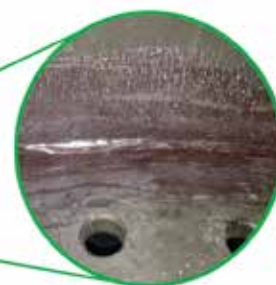
Rapid Repair and Time-Saving

HEGGEL Fix product range features advanced mortars designed to repair surface defects in damaged metal equipment as well as in hard/soft rubber-lined and glass-lined vessels. These products provide exceptional abrasion resistance, chemical resistance against highly aggressive environments, high thermal resistance, and excellent adhesion strength to a wide range of substrates.

HEGGEL Fix has a wide range of application in repairs and maintenance of various types of metals, alloys and linings, extending the life cycle of the machineries, process equipment and steel structures, while reducing the downtime.

Our Metal-Build **HEGGEL Fix** products can also be used in the surface preparation stage, prior to the application of any coating system, in order to fill the pitting, holes and defected areas, and in consequence, maximize the performance and life cycle of the coating system.

Repairing damaged rubber lined equipment by the same type of rubber compounds leads to time and cost overruns, whereas the application of **HEGGEL Fix** reduces the cost significantly whilst saving time and allowing an easy installation.



*Repaired rubber lined
Ion-Exchange vessel with
HEGGEL Fix 811*

HEGGEL® Fix assets

- Exceptional mechanical strength and abrasion resistance
- Excellent adhesion strength to a wide range of substrates
- Superior broad-range chemical resistance
- Temperature resistance in excess of 225°C
- Easy application
- Time-saving and cost-effective



HEGGEL® Tile

HEGGEL® Brick

Durable Acid-Resistant Ceramic Tiles & Bricks for Long-Term Protection

Acid-resistant Tiles & Bricks have been in extensive use for many decades across various industries, providing protection against potential structural damage.

The **HEGGEL Tile & Brick** category represents a premium selection of tiles & bricks engineered to withstand the severe demands of industrial applications, whether exposed to the harshest corrosive chemicals or heavy mechanical stresses. These tiles and bricks are produced in various shapes and sizes in accordance with German standard sizes, but can also be tailored to different dimensions and sizes upon request.

HEGGEL Tile & Brick category is featured by its remarkably low water absorption, exceptional compressive and flexural strength, and unparalleled chemical resistance even in the most challenging environments. When **HEGGEL Tile & Brick** products are used in conjunction with the appropriate acid and alkali-resistant mortar, they exhibit a considerably extended lifespan.

HEGGEL® Mortars

Acid & Alkali Resistant Mortars A Broad Range of Bases Covering Every Demand

HEGGEL GmbH provides acid and alkali resistant mortars for laying tiles/bricks, called **HEGGEL Mortars** with a broad range of formulations and structures for optimum performance, in exposure to a wide variety of process conditions.

The considerable diversity of our **HEGGEL Mortars** portfolio derived from the variety of resin bases and improved formulation offers a wide range of chemical and thermal resistance as well as outstanding mechanical strength.

HEGGEL® Tile / Brick Lining Application Scopes

Floors
Sumps
Channels
Pits
Reservoirs

- Chemical industry
- Waste water and process water treatment units
- Power plants
- Chemical storage warehouses and workshops
- Neutralization tanks
- Pickling lines

HEGGEL FU

- Furan-based mortars
- Includes versatile products modified with mineral and carbon fillers
- Highly resistant to solvents, acids and alkalis
- Thermal resistance up to 220°C

HEGGEL SP

- Potassium silicate-based mortars
- Extremely high acid resistance
- Extraordinary thermal resistance to high temperatures in excess of 900°C

HEGGEL PL

- Phenol-based mortars
- Superior resistance to aggressive conditions, especially to acids and solvents
- Excellent adhesion to ceramic and carbon tiles / bricks

HEGGEL VE

- Novolac vinyl ester-based mortars
- Good chemical resistance, especially against oxidizing agents
- High-performance against mechanical stresses

HEGGEL PS

- Polyester-based mortars
- Superior chemical resistance to a wide variety of chemicals
- Strong bonding with tiles & bricks

HEGGEL EP

- Epoxy-based mortars
- Excellent thermal resistance up to 150°C

HEGGEL® Pox

HEGGEL® Flex

Long-Lasting Reliable Floor Coating Systems

In response to the requirements of residential, commercial or industrial environments regarding floor protection, **HEGGEL GmbH** provides its clients with advanced **HEGGEL Pox** and **HEGGEL Flex** products. **HEGGEL** floor coating product portfolio offers efficacious high-performance solutions with long-term durability for concrete and steel substrates. Our **HEGGEL Pox** and **HEGGEL Flex** products comply with hygienic standards and GMP regulations, the essential requirements of food and pharmaceutical industries.

Our **HEGGEL Pox** Epoxy-based systems are privileged due to the solvent-free compositions and their characteristics of high compressive strength and excellent durability for heavy-loads and impacts caused by machineries, equipment, etc.

HEGGEL Flex Polyurethane-based systems provide excellent corrosion resistance against chemical substances along with high impact resistance resulting from its flexibility.

HEGGEL Flex also demonstrates outstanding thermal stability for refrigerated warehouses and hot chambers without any accompanying changes in physical properties.

We have also developed flooring systems with a special and unique electrically conductive polymeric structure, which complies with the ESD standards and effectively prevents the build-up of electrostatic charges.

HEGGEL Pox

- High mechanical and abrasion resistance
- Suitable chemical resistance
- Anti-skid properties
- Outstanding impact resistance
- Excellent adhesion to substrate
- Antistatic properties
- Easy to clean
- Easy to apply and repair
- Emission-free

HEGGEL Flex

- Excellent chemical resistance
- Tough-hard and crack-bridging
- Outstanding impact resistance
- High compressive strength
- Scratch resistance properties
- UV-resistant
- Self-leveling
- Self-ventilating
- Emission-free



Residential

Garages, basements, pool decks, patios

Commercial

Kitchens, automotive, animal facilities, restaurants, retail

Institutional

Hospitals, schools

Industrial / Manufacturing

Electronics, metal fabricating, printing, heavy equipment, chemical

Pharmaceutical / Laboratories

Soap / Cosmetics, medical, testing facilities, containment areas

Warehouse / Distribution

Packaging / shipping, public storage, food / grocery

HEGGEL® Therm

Advanced Thermal Insulation Coating Systems

HEGGEL GmbH has developed the **HEGGEL Therm** product line to deliver next-generation solutions for thermal insulation, fire protection, and energy conservation. Leveraging a cutting-edge formulation, **HEGGEL Therm** systems incorporate aerogel-based technology and encapsulated fire-retardant pigments, offering exceptional insulation efficiency, safety, and surface durability across industrial and civil sectors.

The innovative **HEGGEL Therm** range features advanced insulation coatings that form a seamless, hydrophobic, and non-combustible barrier, effectively reducing heat loss, preventing corrosion under insulation (CUI), and ensuring a safe-touch surface for high-temperature environments. Thanks to its highly porous structure, **HEGGEL Therm** offers exceptional thermal and acoustic insulation, while also providing anti-condensation and anti-mold properties. Designed for multi-layer application with integrated topcoat solutions, **HEGGEL Therm** coatings deliver enhanced weather resistance, mechanical integrity, and long-term durability. These environmentally friendly systems are free from toxic emissions and are ideal for both newbuild and refurbishment projects, setting a new benchmark in high-performance insulation protection.

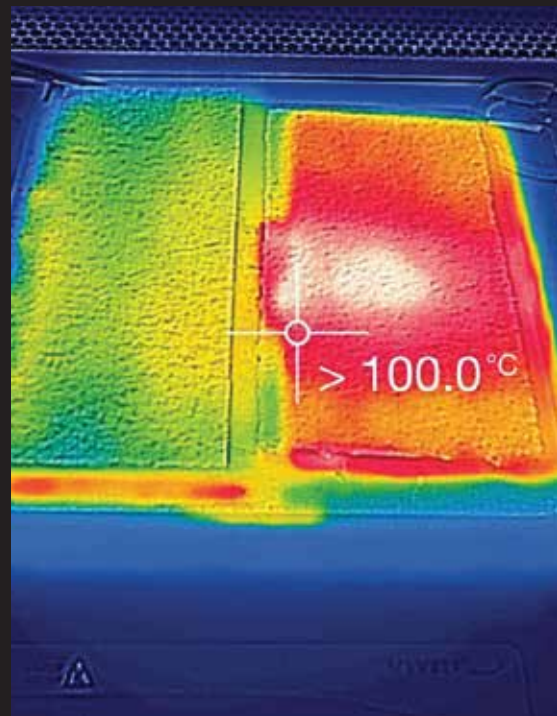
HEGGEL Therm Core Advantages

- Outstanding thermal insulation with aerogel-based microporous structure
- Safe-touch and fire-retardant finish for personnel protection
- Hydrophobic and breathable, resistant to moisture ingress and CUI
- Compatible with metal and concrete surfaces
- Maximum effect with minimal application at low thickness
- Excellent weather, mold, and humidity resistance
- Environmentally safe, solvent-free and non-toxic under fire conditions



HEGGEL® Therm

Application Areas



- Exterior application on storage tanks, process vessels, and pipelines
- Structural steelwork, industrial metal, and concrete surfaces
- HVAC systems, utility rooms, corridors, and stairways
- Energy-saving insulation for building interiors and exteriors (walls, ceilings, roofs)
- Cold storage and refrigeration units (walls, ceilings, containers)
- Fire-safe coating for indoor and industrial use
- Thermal insulation for hot and cold services



HEGSEL[®] Corr / HEGSEL[®] Coat spray & brush coatings

Product Matrix 1

Performances	Products
Tests	Type
Viscosity	grade
Volume solids	%
DFT typical to maximum	µm (microns)
Temperature resistance	immersed
	non-immersed
Optional antistatic conductivity	10 ⁶ Ω
Impact resistance (ASTM G14)	direct
	reverse
Abrasion resistance (ASTM D4060)	loss per 1.000 cycles
Adhesive strength (ASTM D4541)	MPa
Adhesive strength (ISO 4624)	MPa
Salt spray test (ASTM B117 & D714)	h (hours)
Salt spray test (ISO 9227:2006-10)	h (hours)
Cathodic disbondment tests (ASTM G95/G42/G8)	result
Permeability (ASTM E96)	1.000 hours
Flexibility / mandrel bend (ASTM D522)	degree of bending
Deionized water immersion test	hours at 50°C
Diluted acids & alkaline solutions: H ₂ SO ₄ , NaOH, HCl, HNO ₃	pH 5 - 10
Concentrated acids & alkaline solutions: H ₂ SO ₄ , NaOH, HCl, HNO ₄	pH 3 - 12
Amines: DEA, MDEA, MEA, DGA, ADIP	service temperature
Combinations of: Amines, H ₂ S, CO ₂ , hydrocarbons	service temperature
Combinations of: Hydrocarbons and oxygenated solvents	service temperature
Oils and fuels	service temperature
Deionized / demineralized water , salt water, seawater, brackish water, waste water	service temperature

Typical applications

All data are only intended as a guideline for informational purposes and do not constitute a legally- binding warranty of the suitability for a certain purpose of use, due to its dependence on site conditions and possible processing, use and applications.

HEGGEL Corr	HEGGEL Corr	HEGGEL Corr	HEGGEL Corr	HEGGEL Coat	HEGGEL Coat
212	210	220	270	111	133
semi-paste	brush / spray	brush / spray	brush / spray	spray	spray
100%	100%	100%	100%	100%	100%
400 - 4.200 µm	200 - 800 µm	600 - 800 µm	400 - 1.000 µm	300 - 1.000 µm	400 - 1.000 µm
225°C	190°C	130°C	100°C	90°C	110°C
280°C	250°C	150°C	200°C	140°C	170°C
yes	yes	yes	yes	yes	yes
13	13	10	10	12	12
3	3	3	3	3	3
< 20 mg	< 20 mg	< 26 mg	< 32 mg	< 65 mg	< 80 mg
> 25 MPa	> 30 MPa	> 30 MPa	> 16 MPa	> 24 MPa	> 27 MPa
> 25 MPa	> 30 MPa	> 30 MPa	> 16 MPa	> 24 MPa	> 27 MPa
> 20.000 h	> 20.000 h	> 20.000 h	> 20.000 h	> 18.000 h	> 18.000 h
> 18.000 h	> 18.000 h	> 18.000 h	> 18.000 h	> 15.000 h	> 15.000 h
no disbondment	no disbondment	no disbondment	no disbondment	no disbondment	no disbondment
0,00 perms	0,00 perms	0,00 perms	0,00 perms	0,00 perms	0,00 perms
> 30°	> 30°	> 30°	> 30°	> 30°	> 30°
> 10.000 h	> 10.000 h	> 10.000 h	> 10.000 h	> 10.000 h	> 10.000 h
< 170°C	< 150°C	< 130°C	< 80°C	< 60°C	< 60°C
< 130°C	< 120°C	< 100°C	< 50°C	ambient	ambient
< 170°C	< 150°C	< 130°C	< 80°C	not recommended	not recommended
< 160°C	< 150°C	not recommended	not recommended	not recommended	not recommended
< 170°C	< 150°C	< 80°C	not recommended	not recommended	not recommended
< 200°C	< 180°C	< 130°C	< 100°C	< 90°C	< 100°C
< 220°C	< 190°C	< 120°C	< 100°C	< 90°C	< 110°C
Sour gas services / amine treating units, amine regenerator / storage tanks, chemical tanks		Chemical tanks, process vessels, Oil & Gas pipelines		Offshore platforms / structures, process / separation tanks, Oil & Gas pipelines, potable water / desalination	

HEGSEL[®] Fix

repairing putties & pastes

Product Matrix 2

Performances	Products
Tests	Type
Viscosity	grade
Volume solids	%
Temperature resistance	immersed
	non-immersed
Optional antistatic conductivity	10 ⁶ Ω
Impact resistance (ASTM G14)	direct
	reverse
Abrasion resistance (ASTM D4060)	loss per 1.000 cycles
Adhesive strength (ASTM D4541)	MPa
Adhesive strength (ISO 4624)	MPa
Salt spray test (ASTM B117 & D714)	h (hours)
Salt spray test (ISO 9227:2006-10)	h (hours)
Cathodic disbondment tests (ASTM G95/G42/G8)	result
Permeability (ASTM E96)	1.000 hours
Flexibility / mandrel bend (ASTM D522)	degree of bending
Deionized water immersion test	hours at 50°C
Diluted acids & alkaline solutions: H ₂ SO ₄ , NaOH, HCl, HNO ₃	pH 5 - 10
Concentrated acids & alkaline solutions: H ₂ SO ₄ , NaOH, HCl, HNO ₄	pH 3 - 12
Amines: DEA, MDEA, MEA, DGA, ADIP	service temperature
Combinations of: Amines, H ₂ S, CO ₂ , hydrocarbons	service temperature
Combinations of: Hydrocarbons and oxygenated solvents	service temperature
Oils and fuels	service temperature
Deionized / demineralized water, salt water, seawater, brackish water, waste water	service temperature

Typical applications

All data are only intended as a guideline for informational purposes and do not constitute a legally- binding warranty of the suitability for a certain purpose of use, due to its dependence on site conditions and possible processing, use and applications.

HEGSEL Fix	HEGSEL Fix	HEGSEL Fix	HEGSEL Fix	HEGSEL Fix	HEGSEL Fix
811	818	822	828	830	831
semi-paste	brush	semi-paste	brush	paste	paste
100%	100%	100%	100%	100%	100%
225°C	190°C	200°C	170°C	90°C	90°C
280°C	250°C	250°C	230°C	150°C	150°C
yes	yes	yes	yes	yes	yes
13	13	13	12	12	12
3	3	3	3	6	6
< 20 mg	< 20 mg	< 20 mg	< 25 mg	< 4 mg	< 12 mg
> 25 MPa	> 30 MPa	> 25 MPa	> 26 MPa	> 24 MPa	> 24 MPa
> 25 MPa	> 30 MPa	> 25 MPa	> 26 MPa	> 24 MPa	> 24 MPa
> 20.000 h	> 20.000 h	> 20.000 h	> 20.000 h	> 20.000 h	> 20.000 h
> 18.000 h	> 18.000 h	> 18.000 h	> 18.000 h	> 18.000 h	> 18.000 h
no disbondment	no disbondment	no disbondment	no disbondment	no disbondment	no disbondment
0,00 perms	0,00 perms	0,00 perms	0,00 perms	0,00 perms	0,00 perms
> 30°	> 30°	> 30°	> 30°	> 30°	> 30°
> 10.000 h	> 10.000 h	> 10.000 h	> 10.000 h	> 10.000 h	> 10.000 h
< 170°C	< 150°C	< 160°C	< 130°C	< 90°C	< 90°C
< 140°C	< 120°C	< 130°C	< 100°C	not recommended	not recommended
< 170°C	< 150°C	< 160°C	< 130°C	< 90°C	< 90°C
< 170°C	< 150°C	< 160°C	< 130°C	< 90°C	< 90°C
< 180°C	< 150°C	< 160°C	< 120°C	< 90°C	< 90°C
< 200°C	< 180°C	< 190°C	< 160°C	< 90°C	< 90°C
< 225°C	< 190°C	< 200°C	< 170°C	< 90°C	< 90°C
Hard / soft rubber lining, glass lining, coated surfaces with HEGSEL Corr products				Abrasion-damaged surfaces	

HEGSEL[®] Mortars

chemical resistant mortars

Product Matrix 3

Performances	Products
Tests	Type
Maximum temperature resistance	°C
Compressive strength (EN ISO 604)	MPa
Adherence to ceramic tiles / bricks (DIN EN ISO 4624)	MPa
Water absorption	% by mass
Acetic acid	100%
Alcohol (Ethanol)	100%
Ammonia	25%
Formaldehyde solution	35%
Formic acid	98%
Hydrochloric acid	37%
Hydrofluoric acid	50%
Methanol	100%
Nitric acid	65%
Oil & Petroleum	100%
Phosphoric acid	85%
Potassium hydroxide	50%
Sodium hydroxide	50%
Sulphuric acid	50%
	98%

All data are only intended as a guideline for informational purposes and do not constitute a legally- binding warranty of the suitability for a certain purpose of use, due to its dependence on site conditions and possible processing, use and applications.

HEGGEL FU	HEGGEL SP	HEGGEL PL	HEGGEL VE	HEGGEL EP
Furan	Potassium / Sodium Silicate	Phenol	Novolac Vinyl Ester	Epoxy
220°C	900°C	180°C	120°C	150°C
95 MPa	35 MPa	65 MPa	110 MPa	100 MPa
> 2 MPa	> 1.5 MPa	> inherent tensile strength of substrate	> inherent tensile strength of substrate	> inherent tensile strength of substrate
< 1	< 1	< 1	< 1	< 1
✓	✓	✓	✓	not recommended
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	not recommended
✓	✓	✓	✓	✓
✓	not recommended	✓	✓	not recommended
✓	✓	✓	✓	✓
not recommended	✓	not recommended	✓	not recommended
✓	✓	✓	✓	✓
✓	✓	✓	✓	not recommended
✓	not recommended	✓	✓	✓
✓	not recommended	✓	✓	✓
✓	✓	✓	✓	✓
not recommended	✓	✓	not recommended	not recommended



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You Build, We Protect!


MADE IN GERMANY



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