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NEWSLETTER

HEGGEL® Corr 214

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Long-Term Protection for Slug Catchers

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Coating Solutions that Withstand the Harshest Conditions

> Slug Catchers: Purpose, Types, and Protection Needs

A slug catcher is a large vessel or pipe assembly used in oil and gas facilities to capture intermittent bursts of liquid, called slugs, from gas pipelines. These slugs form due to variations in flow velocity, pressure drops, or elevation changes and can damage downstream equipment if not properly separated. The slug catcher intercepts these volumes, allowing for controlled gas-liquid separation before further processing.

There are two common types of slug catchers: vessel-type and finger-type. Vessel-types are compact, vertically or horizontally oriented tanks often chosen for space-constrained facilities, while finger-types use long parallel pipes to handle larger volumes in high-output systems. Although structurally different, both designs face identical internal challenges, including chemical attack, erosion, and fouling. As a result, both require reliable internal coatings to protect steel surfaces and ensure operational longevity.

Inside the Slug Catcher: A Hostile Environment

Despite their protective role in the system, slug catchers themselves are exposed to extremely demanding service conditions. Slug catchers are exposed to corrosive fluids like H_2S, CO_2, water, amines, and entrained solids such as sand, all of which contribute to internal degradation. Operating conditions typically range from 20 to 100 bar and 40°C to 100°C. In sour service or high CO_2 environments, the risk of pitting and under-deposit corrosion increases significantly. Fouling from waxes or salts and the presence of acid gases or oxygen can further accelerate corrosion. These conditions demand a protective coating that combines chemical resistance, thermal stability, and mechanical durability, especially in areas prone to thermal cycling and flow turbulence.

Inspection and Maintenance Challenges

Due to their size, critical function, and location at the front end of gas processing facilities, slug catchers are among the most difficult vessels to inspect and repair once in service. Internal surfaces are often only accessible during major shutdowns, and any corrosion or material loss discovered at that point usually requires extensive and costly intervention.

Pitting, under-deposit corrosion, or erosion damage can be well advanced before being detected. That is why a preventive coating strategy, applied before service, provides not only long-term protection but also minimizes inspection frequency, reduces downtime risk, and helps ensure operational continuity over the equipment's lifespan.

Coating Is Essential

Given the multitude of chemical, thermal, and mechanical stressors inside a slug catcher, applying a robust internal lining is a technical necessity, not an option. The coating must act as a highly durable barrier between the steel substrate and the corrosive environment, while also resisting mechanical abrasion and fouling. It must withstand aggressive chemical exposure, immersion, and elevated temperatures while maintaining its structural integrity over time without disbonding or degradation.

Moreover, in practical field conditions, the ideal coating system should be easy to apply, preferably in a single layer, without reliance on complex application methods or high-temperature curing. It should reduce downtime, simplify quality control, and offer long-term performance assurance even in the most challenging conditions.

Unprotected steel inside a slug catcher gradually thins because the gas-and-liquid mixture can corrode the metal and sand particles can erode it, effects that are worse at high pressure and velocity. If this wall loss continues, the vessel can rupture and cause a major safety incident, posing serious HSE threats. Adding a suitable internal lining separates the steel from the aggressive flow, stopping the thinning and keeping the slug catcher safe and reliable.

Proven Solution: HEGGEL Corr 214

HEGGEL Corr 214 is a trusted and field-proven coating system that has consistently delivered reliable protection in real-world applications such as slug catchers. Its successful track record in highly corrosive, high-temperature, and high-stress environments confirms its suitability for one of the most challenging areas in natural gas processing. The coating is solvent-free, self-priming, and cures at ambient temperature.

With its single-coat application, it simplifies the process and reduces downtime during shutdowns or new construction. With outstanding resistance to chemical attack, abrasion, and thermal cycling, **HEGGEL Corr 214** has helped operators reduce corrosion-related failures, extend service life, and minimize maintenance interruptions. When reliability under pressure matters, this coating has already shown it performs.

Application Areas

HEGGEL Corr 214 is ideal for internal protection of slug catchers, pressure vessels, gas-liquid separators, and pipelines exposed to corrosive oil and gas compounds containing chlorides, sulfur species, or acidic gases. It is also well-suited for equipment such as heat exchangers, autoclaves, condensers, evaporators, amine treating units, sulfur recovery tanks, and hydrocarbon pressure vessels. Its excellent chemical and thermal resistance make it a reliable solution for both new constructions and refurbishment projects across chemical and petrochemical industries.

Key Features and Performance of HEGGEL Corr 214

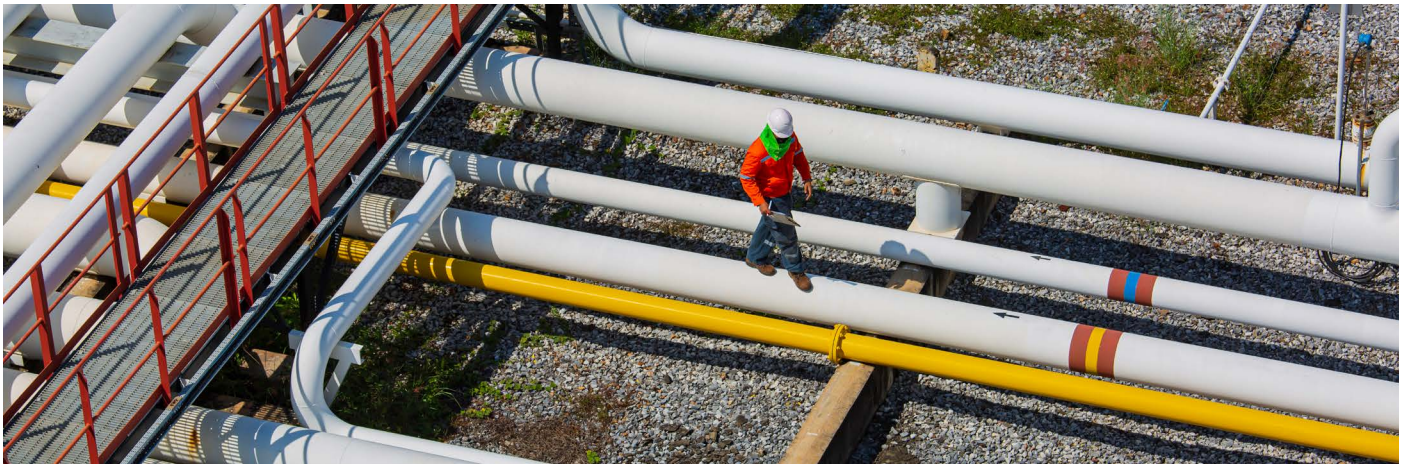
HEGGEL Corr 214 combines a dense, highly crosslinked matrix with excellent physical and mechanical properties. Its high viscosity ensures ease of application by brush or spray, with strong edge retention and build-up. The cured coating forms a tough, durable film with only 20 mg abrasion loss in Taber tests. It offers exceptional adhesion to steel (29.3 MPa) and can withstand mechanical stress with impact resistance up to 13 J (forward). Thermal stability is outstanding, up to +190 °C in immersion and +250 °C non-immersed, making it ideal for high-temperature gas systems.

Property	Value	Unit
Abrasion Resistance	20	mg weight loss
Adhesion Strength	29.3	MPa
Impact Resistance	Forward: 13 Reverse: 3	Joules
Temperature Resistance	Immersed: +190 Non-Immersed: +250	°C

Conclusion: The Protection You Can Count On

Slug catchers operate in some of the most demanding conditions in oil and gas processing. Corrosive media, temperature fluctuations, and abrasive flow all contribute to accelerated wear and costly maintenance. Choosing the right internal coating is essential to ensuring long-term performance and equipment reliability. **HEGGEL Corr 214** has consistently delivered proven protection in real-world applications, helping operators reduce risk, extend service life, and maintain operational efficiency. In addition to performance benefits, using a reliable coating like **HEGGEL Corr 214** also helps mitigate serious HSE risks, by preventing wall thinning and minimizing the potential for leaks or catastrophic failure in high-pressure systems.

For systems that can't afford failure, it's a solution you can trust, for reliability, safety, and long-term performance.



Secure the Future of Your Equipment

HEGGEL's technical team is ready to assist you in selecting the right products and application methods to meet your specific exposure, budget, and durability needs.

Click here to contact our team and let us help you build the right insulation solution for your project.

HEGGEL GmbH
You Build, We Protect!
www.heggel.de
info@heggel.de
+49 211 2730 4700