

## Trusted solutions

for the oil and gas industry

## Superior corrosion protection for the oil and gas industry

One way we help our customers maximise return on their investment is with Avantguard<sup>®</sup>, our innovative, award winning<sup>1</sup> technology that is proven to give superior corrosion protection<sup>2</sup>.

This new generation of activated zinc primers significantly reduces the effects of corrosion, offering advanced protection and increased durability for all-round performance. Unlike standard zinc epoxies, Avantguard is effective using barrier, galvanic and inhibition protection.

Avantguard redefines productivity by being fast drying with best-in-class<sup>3</sup> overcoating intervals. Easy to apply, even in high temperatures and humidity, there is less rework due to cracking, as the coating is more tolerant, even with high DFTs.

Avantguard is proven to deliver reliable durability, protecting your essential assets against the world's rapidly changing weather, extreme temperatures and harsh salt water conditions for longer.

Avantguard won the prestigious 2014 European Frost & Sullivan Award for New Product Innovation and NACE's MP Corrosion Innovation of the Year Award 2105.
 This superiority has been independently proven by third party laboratory neutral salt spray tests according to ISO 9227. In this test, steel protected with Avantguard produced a lower evolution of rust creep, assessed according to ISO 12944-6, when tested up to 3x the duration for C5-high environments.
 Avantguard's overcoating interval is a minimum of 33% faster than competitor zinc-rich epoxies when comparing product data sheets.



# Up to the challenge

The oil and gas industry faces many challenges to protect assets in some of the world's harshest environments.

At Hempel we have over 100 years experience in Marine and Protective coatings and understand these complex needs. We offer tailored anti-corrosion solutions that provide reliable, long-term protection for every aspect of your business, whether upstream or downstream, offshore or onshore, new build or maintenance.

Our extensive product range offers advanced protection for all primary asset elements within the oil and gas industry. From structural steel in new build construction to internal operating and process equipment, and extending beyond that to ongoing maintenance solutions - we protect your assets for a lifetime.

### Hempel delivers trusted solutions for the oil and gas industry.

Proven performance	>	Our coating systems use proven technology to give advanced protection for all your assets, and are extensively tested to current standards including ISO 12944 and NORSOK M-501.
Global service	>	We give you the right products on site, on time, every time, with the support of our 28 manufacturing plants and over 150 stock points worldwide.
Professional support	>	Our multinational coordination teams and over 600 FROSIO/NACE certified coating advisors are on hand to ensure that your coating project runs smoothly from start to finish and beyond.
Innovative solutions	>	With 15 global research and development facilities, we work locally with you to provide the right solution for your project, ensuring environmental responsibilities are met.

## Upstream

#### Offshore

From subsea equipment located on the ocean floor to FPSO's floating on the surface, we protect you from top to bottom.

#### Exploration

We have vast knowledge and experience in the drilling market, along with an extensive track record with some of the world's major drillers. So, whether it's the simplest jackup or an ultra-deep water drill ship, we have the necessary systems to protect your asset.

#### Production

Increasingly our world-wide customers turn to us for our protective coatings. We not only offer systems for structural steel and topside equipment but also for water ballast, cargo oil tanks and process vessels.

#### Our unique experience offshore

Product	Benefit
Avantguard activated zinc primers Quattro XO range of ballast tank coatings	<ul> <li>Our offshore paint schemes cure to a resilient, high quality finish, assuring long service life and delivering a wide range of benefits:</li> <li>helps reduce total cost of painting over the life of an asset</li> </ul>
Hempadur Multi-strength splash zone coatings	<ul> <li>helps reduce the need for expensive on station repainting</li> <li>helps minimise dangerous overboard painting activities resulting from premature coating failure</li> </ul>
Hempaguard and Hempasil ranges of fouling control solutions	Helps reduce hull cleaning costs and aid underwater inspections

#### Onshore

In a changing market, we are changing too, with our unconventional approach to our customer's onshore challenges.

#### **Oilfield equipment**

Not only do our oilfield customer's need to keep their equipment operational but appearance is everything. We offer a range of solutions to help our customers maintain both their equipment and their image.

#### Storage and transportation

Helping to keep our customers transportation infrastructure intact and in service is an essential part of our day to day business. We offer reliable, durable corrosion protection with our range of tank and pipeline coatings.

#### Our unique experience onshore

Product	Benefit
Avantguard activated zinc primers	Helps reduce application times, ensure longer asset life-cycles and reduce maintenance requirements
Hempaline Defend durable internal linings	Help customers manage the integrity of their process equipment and storage capacity more effectively
Hempaxane polysiloxane topcoats	Help reduce repainting by increased durability, gloss and colour retention



## Downstream

We know the downstream sector and understand the need for anti-corrosion coatings that are fast to apply, durable, cost effective and provide advanced protection to help keep operations running smoothly.

We recognise that the requirement to deliver projects on time and to budget has never been stronger. That's why we continually develop higher productivity systems that can be applied quicker and across a wider range of application conditions.

With painting often occurring late in a project's cycle, the potential to cause disruption and impact on schedule must be continually monitored. Our on site support teams co-ordinate global and local services to ensure the smooth running of your coatings project from start to finish and beyond.

#### Our unique experience downstream

Product	Benefit
Hempaprime Multi 500 fast-drying primer intermediate	Increased productivity without compromising on performance
Versiline CUI 56990 high temperature, thick film silicone	Resistance to CUI, heat and thermal cycling allows specifiers to simplify the number of systems required, reducing the likelihood of error
Hempaline Defend chemically resistant internal linings	Single supplier for all your protective coatings no matter how aggressive the contents

#### **Maintenance solutions**

Whatever your choice of original coating scheme, we can provide comprehensive maintenance solutions and condition monitoring throughout your plant's operational phase, ensuring optimum return on your coating investment.







Since 1915 Hempel has been a world-leading coatings specialist, providing protection and inspiration to the world around us. Today we have over 5,500 people in 80 countries delivering trusted solutions in the protective, decorative, marine, container, industrial and yacht markets. This includes many recognised brands like Crown Paints, Schaepman and Jones-Blair.

Hempel is proudly owned by the Hempel Foundation, which supports cultural, humanitarian and scientific causes across the world.

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