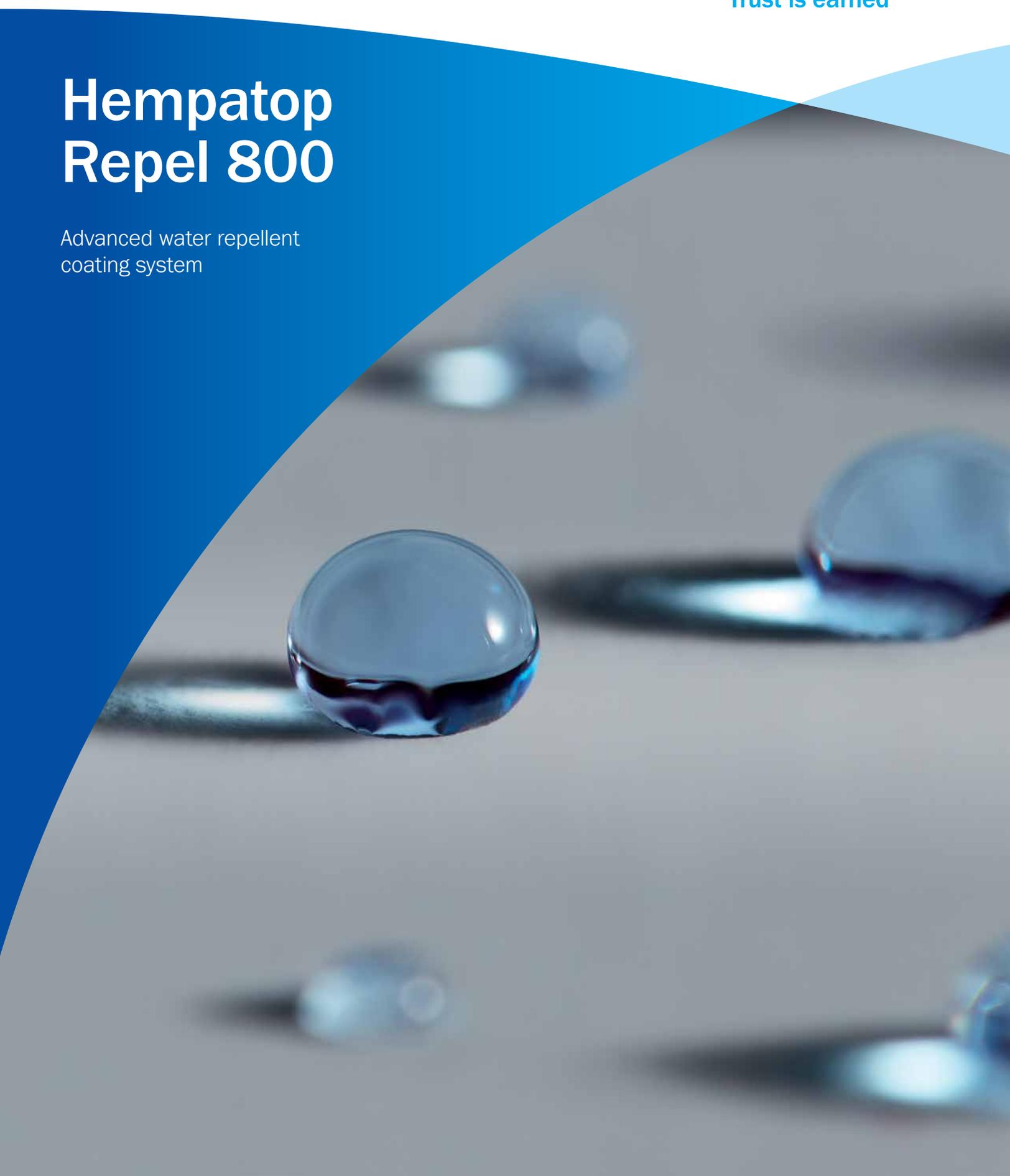


Hempatop Repel 800

Advanced water repellent
coating system



Maintenance optimization using breakthrough technology

Traditional 3-coat systems used for offshore maintenance regularly show signs of early failure, leaving asset owners faced with unsustainable maintenance costs.

Analysis of coating failures has shown that the primary causes are:

- water ingress through the coating system
- stress induced micro-cracking
- mechanical damages

Hempatop Repel 800 together with Hempadur Avantguard® 770 our market leading activated zinc primer, combine to create a unique 2-coat system that addresses these challenges.

With this unique system, your assets are protected for longer, reducing the frequency and cost of ongoing maintenance.

Significantly reducing your operational costs

- Highly flexible, 2-coat water repellent coating
- Lasts longer than conventional 3-coat systems (as reflected by the reduced rust creep)
- Reduces maintenance costs^{1,2}
- Increases productivity^{1,2}
- Easy to apply
- Less complexity
- Coatings applied right first time¹

1. Subject to following preparation and painting instructions
2. Based on the man power required to apply the coat

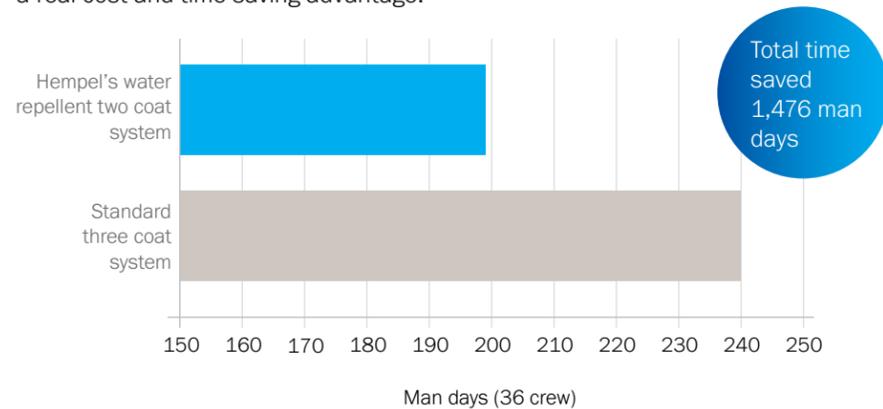
Innovative synergy

The combination of the water repellent coating together with Avantguard activated zinc primer, deliver outstanding mechanical properties and work together to create an exceptionally robust anti-corrosive system.

Easy to apply, outstanding corrosion protection

During the development process, robust mechanical properties and ease of application were key drivers. The result is a coating system that is easy to apply with conventional or airless application equipment. With improved flexibility and crack resistance, compared to conventional coating systems, and increased adhesion retention, corrosion is minimized.

The Hempatop Repel 800 system can be applied in a single day, reducing the need for overnight accommodation, a leading offshore cost consideration. With conventional three coat systems reported to take at least three to four days for application, this new two coat system offers a real cost and time saving advantage.



Based on the scope analysis of a 2km pipe-rack maintenance project with a 36 person team.

Avantguard 770, the perfect primer

Manual surface preparation plays a key role in maintenance. Using Avantguard 770 as the primer brings many advantages, including excellent adhesion and reduced rust creep when applied on manually prepared salt-contaminated surfaces. Avantguard 770 offers outstanding flexibility, impact and crack resistance not found in conventional zinc rich primers.

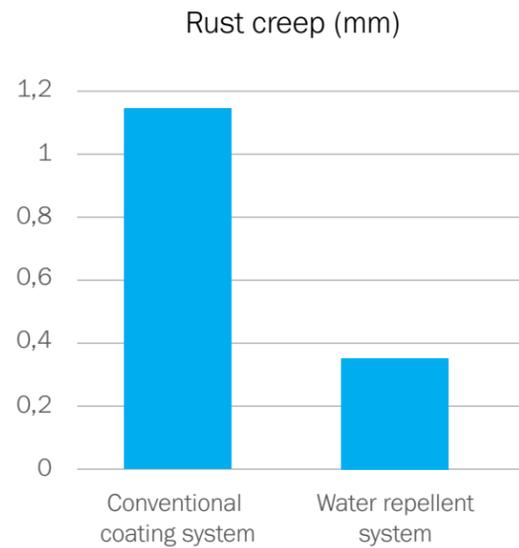
Features	Benefits
Volumetric water repellency	Reduces water ingress through the topcoat
Mechanical performance	Outstanding flexibility, edge retention and effective resistance to impact damage
Excellent adhesion retention	Proven adhesion retention and mechanical performance after 14 months extended cyclical aging testing and 10 months condensation testing
Minimized corrosion creep over time	Damaged area as a result of corrosion is kept to a minimum between maintenance cycles, reducing costs
Easy to apply	The full system can be applied with conventional or airless equipment, brush or roller



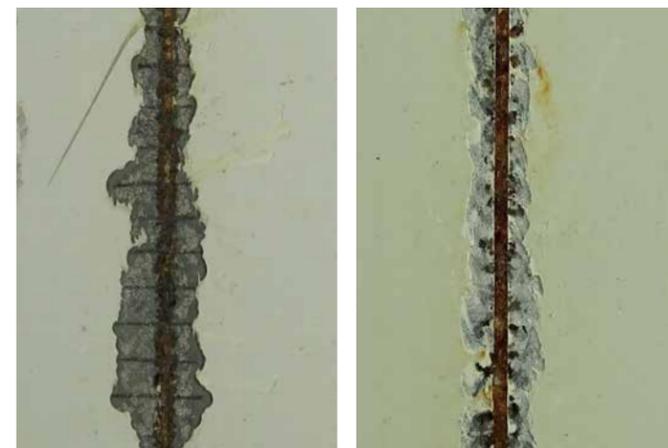
Proven performance

Rust creep

Reduced rust creep for Hempatop Repel 800 based system shows its superior performance for offshore environments compared to a conventional 3-coat system.



Testing done according to NACE TMO404 Section 7 (ASTM D5894) 1 week UV/condensation cycle + 1 week fog/dry chamber with synthetic seawater. Duration: 12 weeks.



Conventional 3-coat system

Avantguard 770 / Hempatop Repel 800 system

Water repellency

Water repellent technology provides superior control of rust creepage at scribe by avoiding the evolution of corrosion, providing extended lifetime to the coating despite accidental damage during service.

Test according to ISO 9227. 1440 hours exposure to salt spray.



Generic Polyurethane

Hempatop Repel 800

Mechanical properties

Hempatop Repel 800 provides improved mechanical properties that tolerates excessive DFTs in areas prone to overapplication, particularly common during maintenance work.

Testing done according to NACE TMO404 Section 12 (ASTM D5894). DFT: 3 times specified DFT. 2 hour-cycles from -22°F (-30°C) to 140°F (60°C). Duration: 3 weeks (252 cycles).



Generic Polyurethane

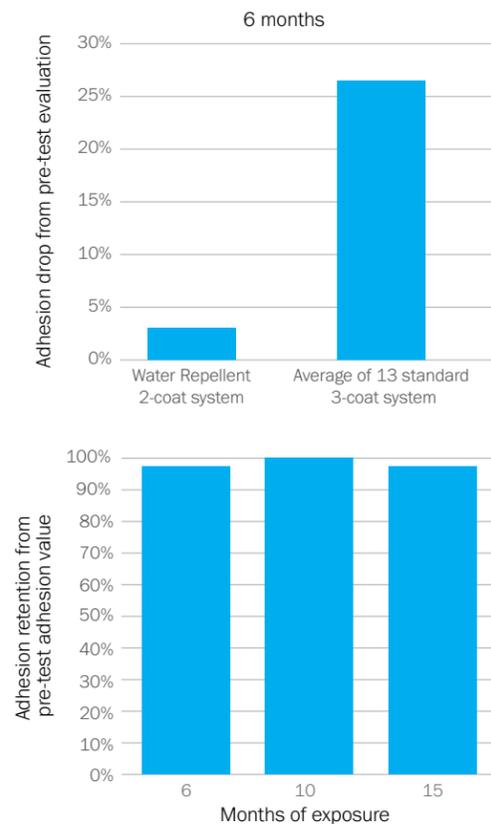
Hempatop Repel 800

ISO 12944-9 CX

The Avantguard 770/Hempatop Repel 800 2-coat system meets the test requirements of ISO12944:2018 Part 9 for a CX category and is prequalified for NORSOK M-501 Ed. 6, System 1.

The Hempatop Repel 800 based system maintains adhesion to the substrate over the testing period showing the low effect of ageing under extreme conditions. Prolonged exposure under the same test method (up to 14 months exposure) shows a constant adhesion as a consequence of the water repellent properties of the system. In contrast, the adhesion drops faster for conventional 3-coat systems.

Ageing cyclic tests - ISO12944-9 CX



About Hempel

As a world-leading supplier of trusted coating solutions, Hempel is a global company with strong values, working with customers in the protective, marine, decorative, container and yacht industries. Hempel factories, R&D centers and stock points are established in every region.

Across the globe, Hempel's coatings protect surfaces, structures and equipment. They extend asset lifetimes, reduce maintenance costs and make homes and workplaces safer and more colorful. Hempel was founded in Copenhagen, Denmark in 1915. It is proudly owned by the Hempel Foundation, which ensures a solid economic base for the Hempel Group and supports cultural, social, humanitarian and scientific purposes around the world.

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