Offshore coatings

TRANSOCEAN
COATINGS
Since 1959

Introduction

Operations in the oil and gas market require substantial capital investment when it comes to corrosion protection.
Splash zone areas of offshore platforms face severe conditions as they are exposed to UV radiation, to constant wetting- and drying cycles and to impact and abrasion caused by floating debris, hurricanes and even ice floats.
If left uncoated, the corrosion rate of steel in splash zone areas will easily amount to over 250 microns/year.

Steel therefore has to be protected against corrosion and painting is the most widely used method of protection. Anticorrosive paint systems typically consist of several layers which form a barrier against the penetration of water and contaminants through the coatings to the steel.
However, the paint systems' properties can only be done justice if they are well-applied and if a proper surface preparation has been carried out. It has been well established that the quality of surface preparation has a direct relation with the lifetime of a system.

Getting it right from the start makes very much sense in the oil and gas market since access and window of opportunity is a major obstacle for maintenance painting.
For instance, getting a crew on a platform to carry out maintenance is a major issue as health and safety trainings have to be followed and complied with. At the same time a shut down of operations is not possible or only for a limited amount of time which result in far less than ideal conditions for surface preparation and paint application.

Oil companies have therefore raised the standards on material protection and selection. For paints, prequalification standards exist which aim to deliver systems with at least 15 year lifetime. Accelerated cycle corrosion tests like ISO 20340 and Norsok M 501 are used by all major oil companies in addition to specific testing on immersion resistance and compatibility with cathodic protection.
Completion of such test procedures takes about 9 months and have to be conducted by independent institutes.
All the above makes clear that any paint company active in this market has to be dedicated to corrosion protection.

Transocean Coatings is able to take up this challenge and in fact since 1959, Transocean Coatings have been supplying the market with high quality paints combined with an excellent service. Products which have proven their worth in the market for decades such as the Transpoxy Masterbond range of surface tolerant epoxies.

On various locations in the world, Transocean Coatings researchers are engaged in development programs to develop new products, improve existing ones and to evaluate new raw materials and techniques that could be of benefit to customers.
One fine example is a new analysis technique called EIS or

Electrochemical Impedance Spectroscopy which is introduced by Transocean to its customers.

In short, the EIS technique makes it possible to measure the barrier properties of a coating (and therefore corrosion resistance) without destructing the coating.

Corrosion resistance of paint is typically tested by using accelerated salt-spray, a test which has poor correlation with practice and is time consuming as often a full test requires 6 months.

By using EIS, only a short period of 1 day up to 3 weeks is required to establish the intrinsic anti-corrosive properties of a paint.

EIS also offers tremendous advantages for field inspection as it is non-destructive and is able to detect corrosion processes beneath a coating system before it is even visible from the outside.

As such, by using EIS as inspection or monitoring tool, it provides reliable information that can be used in maintenance planning programs.

Transocean Coatings has introduced EIS as a monitoring and evaluation tool to its clients and as such companies like Taqa International and Wintershall have introduced EIS in their paint specifications.

At Transocean Coatings we have the experience and knowledge to provide you with an adequate paint system to protect your structure. Important in selecting the right system are factors like the desired lifetime expectation, possible access for future maintenance and, above all, the available budget.

In Maintenance situations, the choice of surface preparation plays a major role too. Obviously, blast cleaning provides the best possible substrate for painting but due to operational constraints, in many cases this is simply not possible. Other methods such as High Pressure Water jetting and mechanical power tooling are well established but have their limitations, especially in the case of using mechanical methods such as wire-brushing or disc sanding which have the risk of polishing the surface resulting in possible adhesion problems of the paint system.

Transocean therefore offers its customer the services of Transocean's Technical Team who will ensure that your facility will receive an excellent treatment.

Transocean paints protect onshore- and offshore facilities in the world largest gas reserves: the South-Pars Gas Fields.

Transocean Solutions

Primers

To obtain a long-life coating system, often the first step is to apply zinc rich primers as they provide excellent corrosion protection. The Zinc dust is typically dispersed in resin matrix of epoxy resins or silicate resins. Zinc silicate paint offer better corrosion protection than zinc epoxy primer but zinc epoxy primers are often easier in application, surface preparation and handling.

Transozinc Epoxy Primer is an excellent epoxy primer pigmented with a high content of zinc and is used in systems for offshore- and onshore applications.

Transozinc Silicate 1.52 with a zinc content of more than 85% in the dry film is the zinc silicate product of choice for the oil and gas industry. The product has unique features as the zinc is mixed with the silicate binder in the form of a paste. Using a zinc paste has tremendous advantages over mixing the silicate binder in a standard way with a zinc powder. First handling and mixing of zinc powder is cumbersome as workers are exposed to zinc fumes which is not healthy. Secondly, agglomerates of zinc are often formed resulting in clogging of application filters.

Using Transozinc Silicate will overcome these practical issues while still obtaining an excellent application result and a long lasting protection.

Transpoxy Uniprimer is a versatile epoxy polyamide primer offering excellent adhesion to all metals including aluminium, galvanised steel and stainless steel. Approved by Shell for new construction projects as well for maintenance jobs.

High Build Anticorrosives

Transpoxy Glascote is a high solids build coat based on pure epoxy resins reinforced with extremely durable pigments. When cured, the high crosslink density network combined with glass flake pigmentation results in an excellent barrier against penetration of water and salts. Transpoxy Glascote is exceptionally suitable to be used on immersed areas and splash zones.

Transpoxy Barrier products are high build polyamide epoxy primers for all areas and have been in the market since the 1970's. Although Transpoxy Barrier can be applied year round, specific versions for winter and summer are available to provide the best workability. Transpoxy Barrier has been approved as primer and build coat for all areas facing atmospheric exposure including decks and walkways. In addition, the product is a recognised IMO-PSPC coating for usage in water ballast tanks.

The **Transpoxy Masterbond** Range consist of high volume solids epoxies ready for heavy-duty performance. With over 80% in volume solids, it meets VOC standards and reduces emissions.

Due to its good wetting and adhesive properties, Transpoxy Masterbond is the surface tolerant mastic of choice for maintenance situations as well as for new construction projects.

In addition, it offers a good resistance to spillage of chemicals and

meets Jet Fuel storage requirements according to Mil-PRF 4556 F.
By selecting Transpoxy Masterbond, there is no compromise on corrosion protection since the product meets Norsok M-501, ISO-20340 and has been recognised as IMO-PSPC coating.

Heat Resistance Solutions

Transpoxy MIO primer is a micaceous iron oxide containing epoxy coating which is easy to apply and offers a long recoating period with itself and other products.
Transpoxy Tankguard 4.61 is a pure phenolic epoxy coating combining a good heat resistance with an excellent chemical resistance. Besides offering heat resistance up to temperatures of 200 °C, both products offer good corrosion protection too and as such are recognised by classification societies and oil companies alike.

Transosil Aluminium HR is a pure silicone based coating offering heat resistance up to 600 °C.
While silicone based systems may have the drawback of requiring a heat cycle for full cure, **Transotherm 5.81** is a very interesting product as it does not require heat to full cure.
Transotherm offers heat resistance up to 500 °C and is based on

inorganic resins. Dependent on climate conditions, product can reach full cure state within one day and therefore is ideal for those situations where shut down periods are short. In combination with **Transozinc Silicate** as a primer, Transotherm forms a complete anticorrosive system and as such has been approved by many companies including Shell.

Finishes

The final layer of any coating system is often judged by its esthetical qualities but in fact it contributes to the overall anticorrosive properties of the coating system.
Transurethane Shield is a high solids, polyurethane finish providing excellent durability and is available in a wide range of colours. The product is suitable for new construction project as well as for maintenance jobs in marine- and industrial environments.
Transpoxyl PX is a polysiloxane coating combining the toughness of epoxy systems with the long lasting colour retention properties of silicone resins. The product has high volume solids and therefore an ideal finish when solvent emissions are restricted.
Combined with Transpoxy Masterbond, Transpoxyl PX offers a two coat anticorrosive system which meets the latest Norsok M-501 requirements.

Transocean Product range

The product range of Transocean comprises a wide range of products designed to be used in a marine environment. Note that products are always part of a coating system. Please contact your local Transocean company for obtaining more information on our products and for advice on appropriate coating systems for your ship.

Transocean

Beside our universal primers, Transocean offers many other products which can match a specific requirement on composition, usage and budget. Below a selection of products.

Transozinc Epoxy	Zinc epoxy primer
Transoweld Primer	low zinc silicate shop primer
Transozinc Silicate	Zinc silicate anticorrosive
Transpoxy Primer	Epoxy primer
Transpoxy Uniprimer	Universal epoxy primer for all substrates
Transpoxy MIO Primer	Epoxy primer pigmented with Micaceous Iron Oxide
Transpoxy EC Primer	Epoxy primer with unlimited recoatability
Transpoxy ARC	Abrasion resistant pure epoxy
Transpoxy Barrier FF	Universal epoxy primer/coating
Transpoxy Barrier 218	High build epoxy coating
Transpoxy Intermediate	Epoxy buildcoat
Transpoxy Deep Tanks	Amine adduct cured chemical resistant epoxy
Transpoxy Tankguard 461	Phenolic epoxy
Transpoxy Tankguard 471	Solvent free, chemical resistant epoxy
Transpoxy Masterbond	High solids, surface tolerant epoxy coating
Transpoxy Masterbond Aluminium	Surface tolerant epoxy mastic
Transpoxy Masterbond BT	Epoxy mastic especially for ballast tanks
Transpoxy Masterbond GF	Glassflake epoxy
Transpoxy Glascote	Glassflake epoxy
Transvinypox HS	High solids epoxy tiecoat
Transpoxy Guard	Solvent free epoxy for potable water

Transocean Finishes

Below a brief summary of the most popular Transocean Finishes.

Transpoxy Finish	Epoxy finish
Transpoxy EC Coating	Epoxy finish with unlimited recoatability
Transothane Finish	Regular build polyurethane finish
Transurethane Finish	High build polyurethane finish
Transurethane Shield	High solids, polyurethane finish
Transpoxyl PX	Polysiloxane
Transofine Finish	Water borne acrylic
Transocean Aquapox	Water borne epoxy

Transocean Heat resistant products

Transpoxy MIO Primer	Micaceous Iron Oxide epoxy primer/coating up to 200°C
Transpoxy Tankguard 461	Phenolic Epoxy up to 200°C
Transosil Finish	Single pack silicone acrylic up to 250°C
Transotherm	Two pack, inorganic coating up to 450°C
Transosil Aluminium	Single pack silicone coating up to 600°C

Transocean Fouling release system

Transocean Ultima tiecoat	First coat in Ultima system providing toughness and adhesion
Transocean Ultima topcoat	Second coat in Ultima system providing long lasting fouling release characteristics

Transocean Moisture cured range

Transocean MC-Primer	Surface tolerant primer pigmented with aluminium
Transocean MC-Zinc	High solids zinc primer
Transocean MC-MIO	Micaceous Iron Oxide pigmented sealer/finish

The laughing dolphin guarantees worldwide local service. It's unique!

Since 1959, Transocean Coatings is active in the manufacture and supply of antifoulings, anticorrosives and other coatings for commercial ships, pleasure crafts and steel structures onshore as well as offshore.

Extensive research and development work has provided Transocean Coatings with a series of products which professionals acknowledge to be complete and of high quality.

Transocean Coatings has a network of manufacturers, producing its range of coatings in some 40 countries and subsequently distributing the paints to all continents.

Manufacturing takes place using stringent formulations. Whether a product is supplied in Europe, Asia, North- or South America, in Africa or Australia, the quality is guaranteed identical.

At any shore therefore, wherever in the world, you can rely on Transocean Coatings. And local service assures quick delivery of factory-fresh products at competitive prices.

That's unique!

Your local Transocean representative

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WORLDWIDE NETWORK WITH LOCAL SERVICE